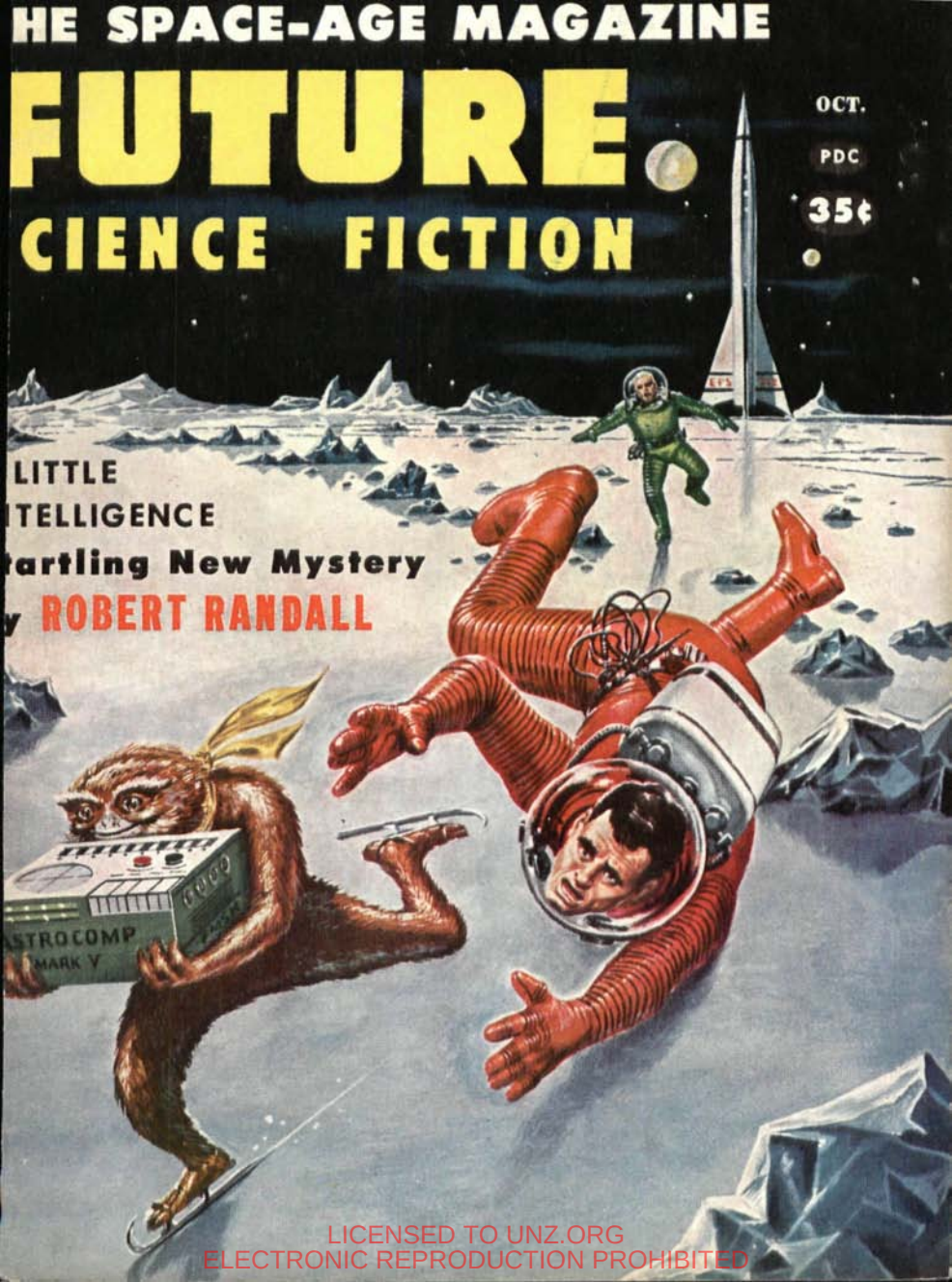

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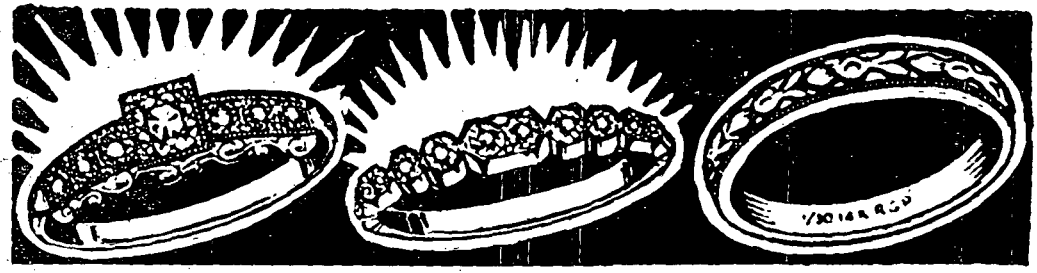

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FUTURE SCIENCE FICTION

No. 39
October,
1958
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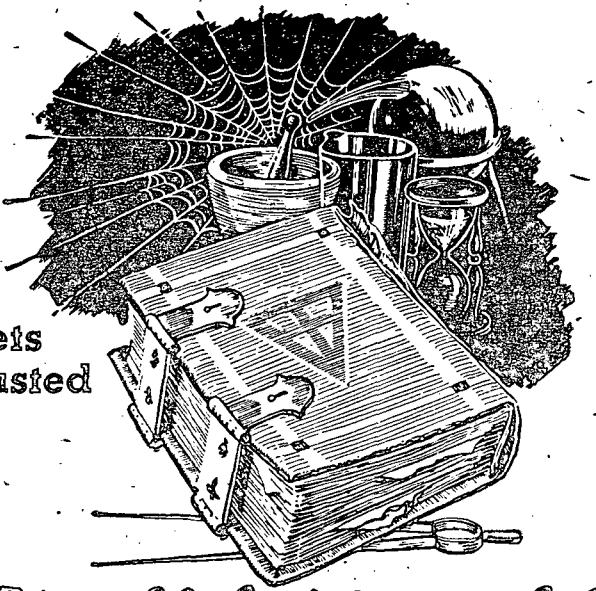

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A LITTLE INTELLIGENCE

Feature Novelet

by Robert Randall

illustrated by FREAS

The age demanded diplomacy, co-operation, and high-level understanding if undesired war between Man and Pogatha were not to continue. So the alien envoys had to be handled with care — and not permitted to get an insight into Earth's technology. Well, they wouldn't find any military technology in a cathedral! But someone found Vor Nollig, the blue Pogath, dead — and there was murder to deal with. And to Sister Mary Magdalene, the simultaneous killing of a cat was a crucial clue..

SISTER MARY MAGDALENE felt apprehensive. She glanced worriedly at the priest facing her, and

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The aliens shot another puzzled glance at the cat, as Father Destry led them around...

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said, "But—I don't understand. Why quarter the aliens *here?*"

Her gesture took in her office, the monastery, the convent, the school, the Cathedral of the Blessed Sacrament. "Because," said Father Destry patronizingly, "there is nothing here for them to learn."

The nun eyed Father Destry uneasily. The single votive candle flickering before the statue of the Virgin in the wall-niche beside him cast odd shadows over his craggy, unhandsome face. She said, "You mean that the beings of Capella IX are so well versed in the teachings of the Church that they couldn't even learn anything here?" She added with innocent sarcasm, "My, how wonderful for them!"

"Not quite, Sister. The Earth Government isn't worried about the chances of the Pogatha learning anything about the Church. But the Pogatha would be hard put to learn anything about Terrestrial science in a Cathedral."

"The walls are full of gadgets," she said, keeping her voice flat. "Vestment color controls, sound suppressor fields for the confessionals, illuminations. . . ."

"I know, I know," the priest interrupted testily. "I'm talking specifically about *military* information. And I don't expect them to tear down our walls to learn the secrets of the vestment color controls."

SISTER MARY MAGDALENE shrugged. She had been deliberately baiting Father Destry, and she realized she was taking out on him her resentment against the government for having dumped a delegation of alien beings into her otherwise peaceful life.

"I see," she said. "While the— Pogatha?— Pogatha delegation is here, they're to be kept within the cathedral grounds. The Earth Government is assuming they'll be safe here."

"Not only that, but the Pogatha themselves will feel safer here. They know that Terrestrial feelings still run high since the war, and they know there could be no violence here. The Government wanted to keep them in a big hotel somewhere—a place that would be as secure as any.

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But the Pogatha would have none of it."

"And one last question, Father. Why does it fall to the Sisters of the Holy Nativity to put them up? Why can't the Holy Cross Fathers take care of them? I mean—really, I understand that they're alien beings, but they *are* humanoid. . ."

"Quite so. They are females."

The nun's eyebrows rose. "They are?"

FATHER DESTRY blushed faintly. "I won't go into the biology of Capella IX, partly because I don't completely understand it myself. But they do have a matriarchal society. They are oviparous mammals, but the rearing of children is always left to the males—the physically weaker sex. The fighters and diplomats are definitely female."

"In that case"—the nun shrugged in defeat—"if those are the Bishop's wishes, I'll see that they're carried out. I'll make the necessary arrangements." She glanced at her wristwatch and said curtly, "It's almost time for Vespers, Father."

The priest rose. "The Government is preparing a brochure on the—ah—physical needs of the Pogatha. I'll have it sent to you as soon as it arrives."

"*Care and Feeding of Aliens,* eh? Very well, Father. I'll do my best."

"I'm sure you will, Sister." He looked down at his hands, as though suddenly unsure of himself. "I know this may be a hard job, Sister, but. . ." He looked up, smiling suddenly. ". . . you'll make it. The prayers of everyone here will be with you."

"Thank you, Father."

The priest turned and walked out. Sister Mary Magdalene, unhappily conscious that though she respected Father Destry's learning and piety she could feel no warmth toward him as a person, watched him depart. As he reached the door a lithe coal-black shape padded over to him and rubbed itself lingeringly against the priest's legs.

Father Destry smiled at the cat, but it was a hollow, artificial smile. The priest did not

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enjoy the affections of Sister Mary Magdalene's pet. He closed the office door.

The cat leaped to the top of the nun's desk.

"Miaou," it said calmly.

"Exactly, Felicity," said Sister Mary Magdalene.

SISTER MARY MAGDALENE spent the next two days reading the digests of the war news. She had not, she was forced to admit, kept up with the war as much as she might have. Granted, a nun was supposed to have renounced the Devil, the Flesh, and the World—but it was sometimes a good idea to check on what all three were up to.

When the Government brochure came, she studied it carefully, trying to get a complete picture of the alien race that Earth was fighting. If she was going to have to coddle them, she was going to have to know them.

The beginning of the war was shrouded in mystery. Earth forces had landed on Capella IX thirty years before; they had found a civilization two centuries behind that of Earth, technologically speaking. During the next twenty years, the Pogatha had managed to beg, borrow, and steal enough technology from the Earth colonies to almost catch up. And then someone had blundered.

There had been an "incident"—and a shooting war had begun. The Pogatha feeling, late in arising, was that Earthmen had no right settling on Capella IX; they were aliens who must be driven off. The colonists refused to abandon twenty years' effort without a fight.

IT WAS A queer war. The colonists, badly outnumbered, had the advantage of technological superiority. On the other hand, they were hindered by the necessity of maintaining a supply-line 42 light-years long, which the Pogatha could and did disrupt. The colonists were still dependent on Earth for war material and certain supplies.

The war had waggled back and forth for nearly ten years, without any definite advantage to either side. Thermonuclear weapons had not been employed, since they would leave

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only a shattered planet of no use to anyone.

Both sides were weary; both sides wanted to quit, if it could be done without either side losing too much face. Human beings had an advantage in that Earth, itself, was still whole; but the Pogatha had an almost equal advantage in the length of the colonists' supply lines. Earth would win eventually; that seemed obvious. But at what cost? In the end, Earth would be forced to smash the entire Pogatha civilization. And they did not want to do that.

There was an element of pride in the Pogatha viewpoint. They asked themselves: would not suicide be better than ignominious slaughter at the hands of the alien Earthmen? Unless a peace with honor could be negotiated, the Pogatha would fight to the last Pogath, and would quite likely use thermonuclear bombs in a final blaze of self-destructive glory.

The four Pogatha who were coming to the little convent of the Cathedral Chapter of the Sisters of the Holy Nativity were negotiators who had to be handled with the utmost care. Sister Mary Magdalene was no military expert, and she was not an interstellar diplomat; but she knew that the final disposition of a world might rest with her. It was a heavy cross to bear, for a woman who had spent twenty years of her life as a nun.

SISTER MARY MAGDALENE turned her school duties over to Sister Angela. There was mild regret involved in this; one of Sister Mary Magdalene's joys had been teaching the dramatics class in the parochial high school. They had been preparing a performance of *Murder in the Cathedral* for the following month. Well, Sister Angela could handle it well enough.

The supplies necessary for the well-being of the Pogatha were sent by the Government; they consisted mostly of captured goods. A cookbook, translated by Government experts, came with the food, along with a note: "*These foods are not for human consumption. Since they are canned, there is no need to*

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season them. Under no circumstances should they be mixed with Terrestrial foods. Where water is called for, use only distilled water, never tap water. For other liquids, use only those provided."

There was also a book of etiquette and table settings for four. The Pogatha would eat alone; there would be no diplomatic banquets here. Sister Mary Magdalene found out why when she went, accompanied by Felicity, to talk to the sisters who prepared the meals for the convent.

SISTER ELIZABETH was a plumpish, smiling woman who loved cooking and good food; she ruled her domain with an almost queenly air. Looking like a contented plump *hausfrau* in her kitchen uniform, she smiled as Sister Mary Magdalene came in.

"Good morning, Sister."

"Have you opened any of the Pogatha food cans yet?" the Sister-in-Charge wanted to know.

"I didn't know whether I should," Sister Elizabeth said. Seeing Felicity prowling on the worktable, in search of scraps of food, she waved at the cat goodnaturedly, and said, "Stay away from there, Felicity! That's lunch!"

The cat glowered at her and leaped to the floor.

Sister Mary Magdalene said, "I'd like to have a look at the stuff they'e going to eat. Suppose you pick a can at random, and we'll open it up."

Sister Elizabeth nodded and went into the storeroom. She returned carrying an ordinary-looking can. Its label was covered with queer script, and it bore a picture of a repulsive-looking little animal. Above the label was pasted a smaller label which read, in Roman characters, *VAGHA*.

Sister Mary Magdalene flipped open the translated Pogatha cookbook and ran her finger along the "V" section of the index. Finding her reference, she turned the pages and read. After a moment she announced, "It's supposed to be something like rabbit stew. Go ahead and open it."

Sister Elizabeth put it in the opener and pressed the starter. The blade bit in. The top of the can lifted.

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"*Whoof!*" said Sister Mary Magdalene.

"*Ugh!*" said Sister Elizabeth.

EVEN FELICITY, who had been so interested that she had jumped up to the table to watch the proceedings, wrinkled her bewhiskered nose in disgust and backed away.

"It's spoiled," Sister Elizabeth said sadly.

But the odor was not quite that of decay. True, there was a background of Limburger cheese overlaid with musk; but this was punctuated pungently with something that smelled like a cross between butyl mercaptan and ammonia.

"No," said Sister Mary Magdalene unhappily. "It says in the book that the foods have distinctive odors."

"With the accent on the *stinc*. Do you mean I have to prepare stuff like that in my kitchen?"

"I'm afraid so," said Sister Mary Magdalene.

"But everything else will smell like that! It'll absolutely ruin everything!"

"You'll just have to keep our own food covered. And remember that ours smells just as bad to them."

Sister Elizabeth nodded, tightlipped, the joviality gone from her face. Now she, too, had her cross to bear.

II

THE APPEARANCE of the Pogatha, when they finally arrived, did not shock Sister Mary Magdalene; she had been prepared for the sight of ugly caricatures of human beings by the photographs in the brochure. Nor was she bothered by the faint aroma, not after the much stronger smell of the can of stew. But to have one of them address her in nearly-perfect English almost floored her. Somehow, she had simply not prepared herself for intelligent speech from alien lips.

Father Destry had brought them in from the spaceport, along with the two Earthmen who were their honor escort. She had been watching the courtyard through the window of her office, and had thought she was quite prepared for

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them when Father Destry escorted them into the office.

"Sister Mary Magdalene, permit me to introduce our guests. This is Vor Nollig, Chief Diplomat, and her assistants: Vor Betla, Vor Gontakel, and Vor Vun."

And Vor Nollig said, "I am honored, Sister."

The voice was deep, like that of a man's, and there was certainly nothing effeminate about these creatures. The nun, in her surprise, could only choke out a hasty: "Thank you." Then she stood back, trying to keep a pleasant smile on her face while the others spoke their pieces.

They were not tall—no taller than Sister Mary Magdalene's own five foot five—but they were massively built. Their clothing was full and bright-colored. And, in spite of their alienness, the nun could tell them apart with no difficulty. Vor Nollig and Vor Betla had skins of a vivid cobalt-blue color. Vor Gontakel was green, while Vor Vun was yellow.

THE GOVERNMENT brochure, Sister Mary Magdalene recalled, had remarked that the Pogatha had races that differed from each other, as did the races of Earth. The blue color was a pigment, while the yellow color was the color of their blood—thus giving the Pogatha a range of yellow-green-blue shades according to the varying amount of pigment in the skin.

In an odd parallel to Earth history, the Blues had long been the dominant race, holding the others in subjection. It had been less than a century ago that the Yellows had been released from slavery, and the Greens were still poverty-stricken underdogs. Only the coming of the Earthmen had brought the three races together in a common cause.

Father Destry was introducing the two Earthmen.

"... Secretary Masterson and Secretary Bass. They will be staying at the Holy Cross Monastery during the negotiations."

Sister Mary Magdalene had recovered her composure by now. Looking around with a sweeping gesture that took in Father Destry, the four aliens,

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the stocky Masterson and the elongated Bass, she said, "Won't you all sit down?"

"You are most gracious," said Vor Nollig brusquely, "but our trip has been a long one, and we are most anxious to—ah—the word—freshen up, is it?"

The nun nodded. "I'll show you to your rooms."

"You are most kind."

"I think you'll find everything prepared. If you don't, just ask for whatever you'll need."

SHE LEFT the men in her office and escorted the four Pogatha outside, across to the part of the convent where they would be staying. When the aliens were installed in their rooms, Sister Mary Magdalene returned to her office and was surprised to find Father Destry and the two U.N. Secretaries still there. She had supposed that the priest would have taken the U.N. men over to the monastery.

"About the Pogatha," said Secretary Masterson with a nervous quirk of his fleshy lips. "Be careful with them, will you, Sister? They're rather—uh—prejudiced, you see."

"So am I. Against them, that is."

"No, no. I don't mean prejudiced against you or any other human. Naturally we don't expect much genuine warmth between peoples who are fighting. But I'm referring to the strong racial antipathy among themselves."

"Between the Blues, the Yellows, and the Greens," Secretary Bass put in. "They try to be polite to each other, but there's no socializing. It's a different kind of prejudice entirely, Sister."

"Yes," Masterson said. "Any one of them might be willing to sit down to talk to you, but not while one of another color was around."

"I see," said the sister. "I'll keep that in mind. Is there anything else I should remember?"

Secretary Masterson smiled understandingly. "It's hard to say. Handling an alien race isn't easy—but remember, they don't expect us to do everything right; they just want us to show that we're not pur-

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posely trying to offend them."

"I'll do my best," said Sister Mary Magdalene.

AN HOUR later, Sister Mary Magdalene decided that she, in her capacity as a hostess here at the convent, had best go around to see how her guests were doing. Her robes swished softly as she went down the hallway. Behind her, Felicity padded silently along.

Sister Mary Magdalene paused outside Vor Nollig's door and rapped. After a moment it opened a little. The alien was dimly visible just inside the doorway.

"Yes, Sister?" said Vor Nollig.

Sister Mary Magdalene forced herself to smile ingratiatingly. "I hope everything's satisfactory."

"Oh, yes. Yes indeed." The door opened another few inches, far enough to let the nun see that Vor Betla stood behind Vor Nollig.

"Please you yes come in?" asked Vor Betla diffidently. There was something in the alien's tone that indicated that the invitation had been offered in an attempt at politeness, and that the Pogath woman was not anxious to have it actually accepted.

Sister Mary Magdalene was still trying to decide what she should say, when suddenly Vor Betla looked down and in a startled voice said, "What is?"

THE NUN'S glance went to the floor. Felicity was standing there, her gleaming green eyes observing the Pogath women intently. Sister Mary Magdalene scooped the cat up affectionately and held it against her. "This is Felicity. My cat."

"Gat?" said Vor Betla, puzzled.

"Cat," Vor Nollig corrected her. A babble of incomprehensible syllables followed. Finally Vor Nollig turned to the nun and said softly, "Pardon my breach of etiquette, but Vor Betla doesn't understand your language too well. She had never heard of a cat, and I was explaining that they are dumb animals kept as pets. We do not keep such animals on Pogathan."

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"I see," said Sister Mary Magdalene, trying to keep the chill out of her voice. She was not pleased by the slighting reference to the cat. "If everything is fine, I'll look after my other guests. If you need anything, just ask."

"Of course, Sister," said Vor Nollig, closing the door.

THE NUN repressed what would have been an irrational and sinful current of anger. She swept on down the hall to the next apartment and knocked. "Poor Felicity," she murmured soothingly to the cat resting on her other arm. "Don't let their insults upset you. After all, they aren't humans, you know."

The door opened.

"I beg pardon?" said the green-skinned Vor Gontakel.

"Oh," Sister Mary Magdalene said, feeling awkward. "Sorry. I was talking to Felicity."

"Ah," said the green Pogath.

"We came to see if everything was comfortable in your room. Didn't we, Felicity?"

"*Meerorow,*" Felicity said.

"Oh, yes," said Vor Gontakel. "All is quite as should be. Quite."

"Meerowou," Felicity said. "*Mrourr.*"

Vor Gontakel said, "This means what?"

Sister Mary Magdalene smiled. "Felicity says she hopes you'll call us if anything is not to your liking."

Vor Gontakel smiled broadly, showing her golden teeth. "I am quite comfortable, thank you, Sister. And thank you, Felicity."

The door closed. Sister Mary Magdalene felt more cheerful; Vor Gontakel had at least been pleasant.

One more trip to make; the last, thank Heaven. The nun rapped on the final door.

VOR VUN slowly opened her door, peered out, then stepped back in alarmed distaste. "A cat!" she exclaimed.

"I'm sorry if I frightened you," Sister Mary Magdalene said quickly.

"Frightened? No; I just do not like cats. When I was a prisoner aboard one of your spaceships, they had a cat." The alien woman held out a saffron-skinned arm. Three

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furrows of scar tissue stood out darkly. "I was scratched. Infection set in, and none of the Earthmen's medicine could be used. It is a good thing that there was an exchange of prisoners, or I might have died."

The alien paused, as if realizing that her speech was not precisely diplomatic. "I am sorry," she said, forcing a smile. "But—you understand?"

"Certainly," the nun said. For the third time in ten minutes she went through the necessary ritual of asking after her guests' comfort; and for the third time, she was assured that all was well.

Sister Mary Magdalene returned to her office. "Come on, Felicity," she whispered soothingly. "Can't have you worrying our star boarders."

FATHER DESTRY was waiting for Sister Mary Magdalene when she came back from Mass the following morning. He was looking at her with a puzzled air.

"Where is everyone?"

Ignoring his question for the moment, Sister Mary Magdalene jabbed furiously at the air conditioner button. "Isn't this thing working?" she asked fretfully of no one in particular. "It seems as though I can still smell it." Then she realized that the priest had addressed her, and that he was still waiting with imperious patience for an answer.

"Father Pierce kindly invited us to use the St. James Huntington Chapel this morning," she said, feeling a twinge of embarrassment at her own unintentional rudeness. "Our own is too close to the kitchen."

Father Destry's face showed his lack of comprehension. "You went over to the monastery? Kitchen?"

Sister Mary Magdalene sighed patiently. "Father Destry, I'm morally certain that it would have been impossible for anyone to have retained a properly reverent attitude at Mass if it was held in a chapel that smelled to high Heaven of long-dead fish!"

Her voice had risen in pitch during the last few words, and she cut off the crescendo with a sudden clamping together of her lips

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before her indignation distressed the priest.

"The Pogatha rose early for breakfast. They wouldn't let Sister Elizabeth cook it. Vor Vun—that's the yellow one—did the honors, and each one ate in his—her—own room. That meant that those meals were carried from the kitchen to the rooms. You should have been here. We just barely made it through Lauds."

FATHER DESTRY was obviously trying to control a smile, which inwardly pleased Sister Mary Magdalene. It was encouraging to know that even Father Destry could be amused by something.

"I imagine the air conditioners have taken care of it by now," he said carefully. "I didn't notice a thing when I came through the courtyard." He glanced at the big clock on the wall. "The first meeting between the official representatives of Pogathan and Earth begins in an hour. I want..."

There was a rap at the door.

"Yes?"

Sister Martha, one of the younger nuns, entered. There was a vaguely apprehensive look on her young face. "The Pogatha are here to see you, Sister."

She stood aside while the four aliens trooped in, led by the imposing Blue, Vor Nollig. Sister Mary Magdalene greeted them with as much heartiness as she could muster, considering the episode of breakfast.

Vor Nollig said, "If it is at all possible, we would like to stroll around the grounds, look at your buildings. Perhaps you could take us on a tour?"

HOSTESS or not, the last thing Sister Mary Magdalene wanted to do now was shepherd the four aliens round the Cathedral grounds. She glanced meaningfully at Father Destry, who scowled faintly, then brightened and nodded.

"It would be a pleasure," the priest said. "I'll be glad to show you the Cathedral grounds."

And bless you for it, the nun thought as the little group left. After they had gone, she rubbed a finger speculatively across the tip of her nose. Was she wrong, or did there seem

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to be something peculiar in the actions of the aliens? They had seemed to be in a tremendous hurry to leave; and the expressions on their faces were strained. Or were they? It was hard to correlate any Pogatha expressions with their human equivalents. And, of course, Sister Mary Magdalene was no expert on extraterrestrial psychology.

Abruplty she ceased worrying about the behavior of the Pogatha. With her finger still on her nose, she caught the aroma of the morning's coffee drifting from the kitchen, where it was being prepared. She smiled; then she indulged in the first good, deep, joyous laugh she had had in two weeks.

III

THAT EVENING, after the Pogatha had returned to their quarters, Sister Mary Magdalene's private meditations were interrupted by a phone call from Secretary Masterson, the heavyset U. N. man. His fleshy face had a tense, worried look on it.

"Sister, I know this might be overstepping my authority, but I have the fate of a war to deal with."

"Just what's the trouble, Mr. Masterson?"

"At the meeting today, the Pogatha seemed—I don't quite know how to put it—*offended*, I suppose. They were touchy and unreasonable, and they quarreled among themselves during the conference—all in a strictly diplomatic way, of course. I'm afraid we got rather touchy ourselves."

"How sad," the nun said. "We all have such high hopes for the success of these negotiations."

"Was there some incident that might have irritated them, Sister? I don't mean to imply any carelessness, but was there anything that might have upset them?"

"The only thing I can think of is the smell of the morning coffee," said the nun. "They came to me asking to be taken on a tour of the Cathedral grounds, and they seemed in an awful hurry to get out of the building. When they were gone, I smelled the coffee being prepared; it must have

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nauseated them as much as their foods bother us."

Masterson's face cleared a little. "That might be it. They *are* touchy people, and maybe they thought the coffee odor that they found so revolting had been generated for their benefit." He paused for a long moment before he said, "Well, that sort of thing is too much for you, and it's obviously too much for them. I'll speak to Bishop Courtland tonight. We'll have to make better arrangements. Meanwhile, do you think you could do something about supper tonight? Get them out of there somehow, and..."

"That might be a little difficult," said Sister Mary Magdalene. "I think it would be better if we ate out."

"Very well. And I'll talk to the bishop."

SHE WAITED a moment for the screen to clear after Secretary Masterson broke contact, then dialed the number of the Holy Cross Monastery on the far side of the Cathedral. The face of a monk appeared on the screen, the cowl of his white robe lying in graceful folds around his throat.

Sister Mary Magdalene said, "Father Pierce, you were gracious enough to ask us to your chapel this morning because of the alien aroma here. I wonder if you'd be good enough to ask us to dinner tonight? Our alien friends don't seem to like our odors any more than we like theirs, and so we can't cook here."

Father Pierce laughed cheerfully. "We'll have to use the public dining hall, of course; but I think we can manage it."

"It'll have to be in two shifts," the nun said. "We can't leave this place deserted, much as we'd like to while they're eating."

"Don't worry, Sister. We'll arrange something. But what about tomorrow and the next day?"

Sister Mary Magdalene smiled. "We'll worry about that if we have to, but I think the Pogatha are on their way out of here. Secretary Masterson is going to make different arrangements with the bishop."

"You don't think they'll be transferred to *us?*"

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"Hardly, Father Pierce. They'll have to leave the Cathedral entirely."

It was a pleasant, if ungracious thought. But Sister Mary Magdalene had taken no vows to put herself and her nuns into great inconvenience for the sake of unpleasant alien creatures. She would be glad to see them go.

MORNING came. Sister Mary Magdalene sat in Choir, listening to the words of the Divine Office and wondering why the Church had been chosen as a meeting-place for the two so alien races. It had not been a successful meeting thus far; but, she pondered, was there some deeper reason for the coming-together than mere political negotiation?

The soft, sweet voices of the women, singing alternately from opposite sides of the chapel in the *Domine, Dominus noster,* were like the ringing of crystal chimes rather than the deeper, bell-like ringing that resounded from the throats of the monks on the opposite sides of the great cathedral.

And, like crystal, their voices seemed to shatter under the impact of the hoarse, ugly, bellowing scream that suddenly filled the air.

A moment later, the singing resumed, uncertainly but gamely, as monks and nuns compelled themselves to continue the service regardless. Sister Mary Magdalene felt the unaccustomed tingle of fear within her. What had happened? Trouble with the aliens? Or merely an excitable visitor taken aback by a surprise encounter with one of the Pogatha?

It might be almost anything. Tension grew within the nun. She had to know.

She rose from her seat and slipped away down the aisle. Behind her, the singing continued with renewed vigor. But that unGodly scream still echoed in her ears.

GOD IN HEAVEN, thought Sister Mary Magdalene an hour later. *What are You doing to Your servants and handmaidens now? Whoever heard of a convent full of cops?*

She hadn't realized that she had spoken the last sentence

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half aloud until she saw Father Destry's astonished and reproachful expression. She reddened at once.

"Please, Sister!" the priest murmured. "They're not 'cops'—they're WBCI officers!"

Sister Mary Magdalene nodded contritely and glanced through the open door of her office at the trio of big, bulky men who were conferring in low tones in the corridor. The label, she thought glumly, made no difference. WBCI or not, they were still *cops*.

The nun felt dazed. Too much had happened in the past hour. Sister Mary Magdalene felt as though everything were twisted and broken around her, as the body of Vor Nollig had been twisted and broken.

Vor Nollig, the Blue: Vor Nollig, the female Pogath; Vor Nollig, the Chief Diplomat of Pogathan—dead, with a common carving knife plunged into her throat, and her alien blood all over the floor of the room in which she had slept the night before.

She still slept there; she would sleep eternally. The WBCI men had not yet removed the body.

VOR BETLA, the other Blue, had found her, and it had been the outraged scream of Vor Betla that had broken the peace of the convent. Sister Mary Magdalene wondered bleakly if that peace would ever be whole again.

First the scream, then the violence of the raging fight as the other two Pogatha had tried to subdue Vor Betla, who seemed to be intent on destroying the convent with her bare hands. And now, the quiet warmth of Sister Mary Magdalene's inviolate little world had suddenly and jarringly been defiled by the entrance of a dozen men, one right after another. But they had come too late; blood had already been shed.

"You look ill, Sister," said Father Destry, suddenly solicitous. "Wouldn't you like to lie down for a while!"

Sister Mary Magdalene shook her head violently. "No! No, I'll be all right; it's just the—the shock."

"The bishop gave me strict orders to make sure that none of this disturbs you."

"I know what he said, and I appreciate it. But I'm afraid

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we have already been disturbed." There was a touch of acid in her voice.

Bishop Courtland, his fine old face looking haggard and unhappy, had come and gone again. Sister Mary Magdalene wished he had not gone, but there was no help for it; the bishop had to deal with the stratoplane load of high officials who had rocketed in as soon as the news had reached the Capital.

ONE OF THE World Bureau of Criminal Investigation men removed his hat in a gesture of respect and stepped into the nun's office. She noticed out of the corner of her eye that the other WBCI men, belatedly remembering where they were, were taking their hats off, too.

"I'm Major Brock, Sister. Captain Lehmann told me that you're the Sister-in-Charge here."

Sister Mary Magdalene nodded wordlessly. Captain Lehmann had been in charge of the group that had come rushing in at Father Destry's call; they had been hidden outside the cathedral grounds, ostensibly to protect the alien visitors.

"I know this is—unpleasant," Major Brock said. He was a big man who was obviously finding it difficult to keep his voice at the soft level he believed was appropriate in here. "It's more than a matter of one life at stake, Sister. We have to find out who did this."

Sister Mary Magdalene nodded, thinking, *The sooner you find out, the sooner all of you will leave here.* "I'll do all I can to help," she told him.

"We'd like to question the sisters," he said apologetically. "We'd like to know if any of them saw or heard anything unusual during the night."

The nun frowned. "What time was the alien killed, Major?"

"We don't know. If she were human, we'd be able to pinpoint it within a matter of seconds. But we don't know how fast the blood..." He stopped suddenly on the "d" of "blood," as though he had realized that such gory subjects might not be proper conversation here.

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SISTER MARY MAGDALENE was amused at the WBCI man's exaggerated tact. "How fast the blood coagulates," she completed, a bit surprised at her own calmness. "Nor, I suppose, how soon *rigor mortis* sets in, nor how long it takes the body to cool."

"That's about it. We'll just have to check with everybody to see if anyone saw anything that might help us."

"Would you tell me one thing?" Sister Mary Magdalene said, glancing hesitantly at the silent, glowering figure of Father Destry. "Can you tell me who the suspects are? And please don't say 'everybody'—I mean the immediate suspects."

"Frankly," said Major Brock, "we think it might be one of the aliens; but I'm afraid that might just be prejudice. There are other possibilities."

"You don't suspect one of us!"

"Not now. But I can't overlook the possibility. If any of the sisters has a brother or a father in the Space Service..."

"I concede the possibility," said Sister Mary Magdalene reluctantly. "And I suppose the same thing might hold true for anyone else."

"It might, but conditions here pretty well confine the suspects to the sisters and the aliens. After all, you've been pretty closely guarded, and pretty secure here." The WBCI man smiled. "Except from invasion by cops." He won Sister Magdalene's undying love with that last sentence.

Father Destry swallowed hard to maintain his composure and said, "I suppose I'll have to remain if the sisters are to be questioned. The bishop..."

"I understand, Father; I'll try not to take too long."

Sister Mary Magdalene sighed and checked the schedule of Masses in the Cathedral of the Blessed Sacrament. There would be little chance of her hearing Mass in the chapel here, with all this going on.

IV

THE NIGHTMARISH morning dragged slowly along. Sister Mary Magdalene phoned the Mother Superior of the order in Wisconsin, to assure her that everything was under control; it

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was true, if not wholly accurate. Then it was the nun's task to interview each of her Sisters, one by one, to learn her story of the night before.

They knew nothing. None of them was lying, Sister Mary Magdalene knew, and none of them was capable of murder.

Not until the Major came to Sister Angela did anything new come up. Sister Angela was asked if she had noticed anything unusual.

"Yes," she said flatly. "There was someone in the courtyard last night. I saw him from my window."

"*Him?*" Sister Mary Magdalene repeated in astonishment, sitting bolt upright in her chair. "*Him?*"

Sister Angela nodded nervously. "It—it looked like a monk."

"How do you know it was a monk?" asked the Major.

"Well, he was wearing a robe—with the cowl down. The moon was pretty bright; I could see him clearly."

"Did you recognize him?"

"It wasn't *that* bright, Major. But I'm sure it was—well, a man dressed in a monk's habit."

Major Brock frowned and chewed at the ends of his mustache. "We'll have to investigate this more fully."

Sister Mary Magdalene rose. A quick glance at the clock told her that it was her last chance to make it to Mass. For an instant, a niggling inward voice told her that missing Mass just this once would be excusable under the circumstances, but she fought it down.

"Would you excuse me?" she said to Brock. "I must attend Mass at this hour."

"Of course, Sister." Brock did not seem pleased at the prospect of having to carry on without her; but, as always, he maintained careful respect for the churchly activities going on about him.

SISTER MARY MAGDALENE went out, headed for the Cathedral. Outside, everything looked so normal that she could hardly believe anything had really happened. It was not until she reached the Cathedral itself that depression again struck her.

The vestment radiations were off.

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The vestments of the clergy were fluorescent; under the radiation from the projectors in the walls, the chasubles, tunics, and dalmatics, the stoles, maniples, and altar frontal, all glowed with color. The color depended on the wavelength of the radiation used. There was the somber violet of the penitential seasons of Lent and Advent, the restful green of Epiphany and the long weeks after Trinity, the joyous white of Christmas and Easter, and the blazing red of Pentecost. But without the radiations, the vestments were black—the somber black of the Requiem, the Mass of the Dead.

FOR A MOMENT, Sister Mary Magdalene's thoughts were as black as the hangings on the altar. And then she realized that, again, there was Reason behind whatever was going on here. There was no doubt in her own mind that the Pogatha were intelligent, reasoning beings, although the question had never been settled on a theological level by the Church. She would pray for the repose of the soul of Vor Nollig.

Forty-five minutes later, she was walking back toward the convent, her own soul strangely at rest. For just a short time, there toward the end, she had felt oddly apprehensive about having had Vor Nollig in mind while the celebrant intoned the *Agnus Dei*—"O Lamb of God that takest away the sins of the world, grant them rest eternal." But then the words of the Last Gospel had come to reassure her: *"All things were made by Him, and without Him was not anything made."* Surely it could not be wrong to pray for the happiness of one of God's creatures, no matter how strangely made.

She was to think that thought again within the next five minutes.

SISTER ELIZABETH, round and chubby and looking almost comically penguinlike, was standing at the gate, tears rolling down her plump cheeks.

"Why, Sister Elizabeth—what's the trouble?"

"Oh, Sister, Sister!" She burst into real sobs and buried her head miserably in Sister

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Mary Magdalene's shoulder. "She's dead—*murdered!*"

For a wild moment, Sister Mary Magdalene thought that Sister Elizabeth was referring to the dead Pogatha, Vor Nollig; but then she knew it was not so, and her numbed mind refused to speculate any further. She could only shake Sister Elizabeth and say, "Who? Who is dead? Who?"

"Her—her little head's all burned off!" sobbed the tearful nun; she was becoming hysterical now, shaking convulsively. Sister Mary Magdalene gripped Sister Elizabeth's shoulders firmly.

"Who?"

Sister Elizabeth looked up. When she spoke it was in a shocked whisper. "Felicity, Sister. Your cat! She's dead!"

Sister Mary Magdalene remained quite still, letting the first tide of grief wash over her. A moment later, she was calm again. The cat had been her beloved companion for years, but Sister Mary Magdalene felt no grief now—merely pity for the unfortunate one who could have done such a brutal deed, and sorrow over the loss of a dear friend. A moment later the anger began, and Sister Mary Magdalene prayed for the strength to unravel the mystery of the sudden outbreak of violence in these peaceful precincts.

WHEN SHE returned to her office a few moments later, the three living aliens were standing grouped together near one wall of the room. Secretary Masterson and Secretary Bass were not too far away. Major Brock was seated in the guest chair, with Father Destry standing behind him. Brock was speaking.

"...and that's about it. Someone—we don't know who—came in here last night. One of the Sisters saw him heading toward the back gate of the courtyard, and another has told us that the back gate was unlocked this morning—and it shouldn't have been, because she's positive she locked it the night before." Brock looked up at Sister Mary Magdalene, and his expression changed as he saw the frozen mask of her face. The nun was filled with hot anger, burning and righteous, but under complete and icy control.

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"What is it, Sister?"

"Would you come with me, Major Brock? I have something to show you. And Father Destry, if you would. I would prefer that the rest of you remain here." She spoke crisply. This was, after all, her domain.

She led the two men, priest and policeman, to the courtyard and around to the rear of the convent. Then they went out to the broad park beyond. Fifteen yards from the gate lay the charred, pitiful remains of the cat.

Major Brock knelt to look at it. "A dead cat," he said in a blank voice.

"Felicity," said Father Destry. "I'm sorry, Sister." The nun knew the sorrow was for her; Father Destry had never felt much warmth for the little animal.

MAJOR BROCK rose and said, softly, "I'm afraid I don't quite see what this has to do with..."

"Look at her head," said the nun in a hot-cold voice. "Burned! That's the work of a Brymer beamgun. Close range; not more than ten feet, possibly less."

Brock knelt again, picking up the body and studying it closely for a silent moment. When he looked up, the cat still in his hands, there was new respect in his eyes. "You're right, Sister. There's the typical hardening of the tissues around the burn; this wasn't done with a torch."

Father Destry blinked confusedly. "Do you think that the killing of Sister Mary Magdalene's pet has something to do with the—uh—murder of Vor Nollig?"

"I don't know," Brock said slowly. "Sister? What do you think?"

"I think it does, but I'm not sure how. I think you'll find a connection."

"This brings something new into the picture, at least," said the Major. "Now we can look for a Brymer beamgun."

VOR BETLA, the second Blue, who had never been able to speak English well, had given it up completely. She was snarling and snapping at Vor Vun, who was translating as best she could. It appeared that all three of the aliens seemed to feel that they might be the

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next to get a carving knife in their insides.

Vor Vun said, "We feel that you are not doing as well as you might, Major Brock. We don't blame the Government of Earth directly for this insult, but obviously the precautions that were taken to protect us were insufficient."

The Major shook his head. "The entire grounds around the Cathedral were patrolled and guarded by every detection instrument known to Earth. No one could have gotten in."

Vor Gontakel put the palms of her green hands together, almost as if she were praying. "It makes a sense. You would not want us to get out, of course, so you would have much of safeguards around."

"We grant that," agreed Vor Vun. "But someone nonetheless killed Vor Nollig, and her loss is great."

Vor Betla snarled and yapped.

Vor Vun translated: "You must turn the killer over to us. If you do not, there can be no further talk of peace."

"How do we know it wasn't one of you three?" asked Secretary Masterson suddenly.

Vor Betla barked something. Vor Vun said, "We would have no reason for it."

Major Brock sighed. "I know. That's what's bothered me all along. Where's the motive?"

SISTER MARY MAGDALENE, watching silently, eyed the three aliens. Which one of them would have killed Vor Nollig. Which one might have killed Felicity?

Vor Vun? She hated cats; had she also hated Vor Nollig? Or had it been Vor Gontakel, the despised Green? But why would she kill Felicity? Had Vor Betla done it so that she could become head of the delegation? That made even less sense.

Motive. What was the motive?

Had someone else done it? One of the secretaries, perhaps? Was there a political motive behind the crime?

And then—she had to force herself to think of it—there was the possibility that one of the monks—or, worse yet, one of her own sisters—had done it.

If an Earthman had done it,

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it was either a political motive or one of hatred; there could be nothing personal in it. If she had been killed by an Earthman, Vor Nollig had been killed for some deep, unknown, or unknowable political machination—possibly by order of the Government itself—or else she had been killed because some Earthman just hated the enemy to such an extent that...

Sister Mary Magdalene did not want to think of blind hatred such as that.

On the other hand, if one of the three remaining Pogatha had done it, the motive could be any one of several. It could be personal, or political, or it might even have a basis in racial prejudice.

THE NUN thought it over for several minutes without reaching any conclusions. Motive would have to be abandoned as a way of finding the killer. For once, motive could not enter the solution at all.

Method, then. What was the method?

Major Brock was saying: "Even the best of modern aids to crime detection can't reconstruct the past for us. But we do know part of the killer's actions. He..."

There was a rap on the door, and Captain Lehmann thrust his head inside. "Excuse me if I'm interrupting. See you a minute, Major?"

Brock frowned, rose and went outside, closing the door behind him. Father Destry leaned over and whispered to the nun. "They may suspect me."

"Nonsense, Father!"

Father Destry pursed his lips suddenly and said nothing more. Major Brock put his head in the door. "Sister, would you come here a minute?"

She stepped into the hall to confront two very grim WBCI men. Captain Lehmann was holding a Brymer beamgun in one hand and a bundle of black cloth in the crook of his arm. A faint but decidedly foul stench was perceptible.

"This is the gun," Lehmann said, "that killed your cat. At least, as far as we know. An energy beam has no traceable ballistics characteristics. We found it wrapped in this..." He gestured toward the black

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bundle. ". . . and shoved under one of the pews in the chapel."

WITH A SUDDEN movement he flipped out the cloth so it was recognizable. Sister Mary Magdalene had no difficulties in recognizing it; it was the habit of a nun.

"The lab men have already gone over it," Major Brock said. "We can prove who the owner is by perspiration comparison, but there also happens to be an identification strip in it. The odor is the blood of Vor Nollig. It spurted out when she was stabbed through the heart."

Brock opened the habit so the ID tag became visible.

It said, *Sister Elizabeth, S.H.N.*

"We'll have to talk to her," said the Major.

"Of course," said Sister Mary Magdalene calmly. "I imagine you'll find it was stolen from her room. Tell me, why should Father Destry think you suspect him?"

The sudden, casual change of subject apparently puzzled Major Brock. He paused a moment before answering. "We don't, really. That is..." Again he paused. "He had a brother. A colonist on Pogathan. The Pogatha caught him. He died—not pleasantly, I'm afraid." He looked at the floor. "We have a similar bit of information on Sister Elizabeth. An uncle."

"You haven't mentioned my nephew yet," said Sister Mary Magdalene.

The Major looked surprised. "No. We hadn't."

"It's of no importance, anyway. Let's go check with Sister Elizabeth. I can tell you know that she knows nothing about it; she probably doesn't even know her spare habit is missing yet, because it was stolen from the laundry. The laundry room is right across from the aliens' quarters."

"WAIT," BROCK said. "You'd rather we didn't talk to her, don't you?"

"It would only upset her."

"How do you know she didn't do it?"

"For the same reason you don't think she did, Major. This thing is beginning to make sense; I'm beginning to understand the mind that did this awful thing."

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He looked at her curiously. "You have a strange mind yourself, Sister. I didn't realize that nuns knew so much about crime."

"Major," she said evenly, "when I took my vows, I chose the name 'Mary Magdalene.' I didn't pick it out of the hat."

The Major nodded silently, and his gaze shifted to the closed door of the nun's office. "The thing is that the whole pattern *is* beginning to make sense. But I can't quite see it."

"It was a badly fumbled job, really," said Sister Mary Magdalene. "If an Earthman had done it, you'd have spotted him immediately."

Again the Major nodded. "I agree. That much of the picture is clear. It *was* one of those three. But unless we know which one, and know beyond any smidgeon of doubt, we don't dare make any accusations."

The nun turned to Captain Lehmann. "Did your lab men find out where that gun was discharged?"

"Why, yes. We found faint burn marks on the floor near the door to Vor Nollig's room."

"In the corridor outside, about four or five feet away?"

"That's right."

"Now—and this is important—where were they in relation to the door? I mean, if a person were facing the door, looking at someone inside the room, would the burn marks be behind him or in front?"

"Well—let's see—the door opens in, so they'd have to stand at an angle—mmmm. Behind."

"I thought so!" Sister Mary Magdalene exclaimed in triumph.

Major Brock frowned. "It almost makes sense, but I don't quite..."

"That's because I have a vital clue that you don't have, Major."

"Which is?"

She told him.

V

"WE KNOW what was done," said Major Brock levelly. "We know *how* it was done." He looked the three aliens over. "One of you will tell us *why* it was done."

"If you are going to accuse one of us," said Vor Gontakel,

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rubbing her green hands carefully, "I'm afraid we will have to resist arrest. Is it not called a 'frame'?"

"Is insult!" snapped Vor Betla. "Is stupid! Is lie!"

The Major leaned back in his chair and looked at the two Terran diplomats, Bass and Masterson. "What makes this so tough," he said, "is that we don't know the motive. If the plot was hatched by all three of them, we're going to have a hell of a time—excuse me, Sister—proving it, or at least a rough time doing anything about it."

Masterson considered. "Do you think you could prove it to the satisfaction of an Earth court?"

"Maybe." Brock paused. "I *think* so. I'm a cop, not a prosecuting attorney."

MASTERSON and Bass conferred a moment. "All right—go ahead," Masterson said finally. "If it's a personal motive, then the other two will be sensible enough to see that the killer has greatly endangered the peace negotiations, besides murdering their leader. And I don't think it was a political motive on the part of all three."

"Though if it was," Bass interjected, "nothing we say will matter anyhow."

"Okay," Brock said. "Here's what happened: Sometime early this morning, around two—if Sister Angela's testimony is accurate—the killer went into the laundry room and picked up one of the nun's habits. Then the killer went to the kitchen, got a carving knife, came back and knocked on the door of Vor Nollig's room. Vor Nollig woke and came to the door. She opened the door a crack and saw what appeared to be a nun in the dim corridor. Not suspecting anything, Vor Nollig opened the door wider and stepped into full view. The killer stabbed her in the heart with the knife."

"Earthman," said Vor Betla positively.

"No. Where's your heart, Vor Betla?"

The Pogath patted the base of her throat.

"Ours is here," Brock said; "an Earthman would have instinctively stabbed much lower, you see."

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SISTER MARY MAGDALENE repressed a smile. The Major was bluffing there. Plenty of human beings had been stabbed in the throat by other human beings.

Brock said, "But now comes the puzzling part. You do not like cats, Vor Vun. What would you do if one came near you? Are you afraid of them?"

Vor Vun sniffed. "Afraid? No. They are harmless; they can be frightened easily. I would not pick one up, or allow it too close, but I am not afraid."

"How about you, Vor Betla?"

"Do? Don't know. Know nothing of cats, but that they harmless dumb animals. Maybe kick if came too close."

"Vor Gontakel?"

"I too know nothing of cats. I only saw one once."

"One of you," said the Major judiciously, "is telling an untruth. Let's go on with the story."

Sister Mary Magdalene watched their faces, trying to read emotion in those alien visages as the Major spoke.

"Then the killer did a strange thing. She turned around and saw Felicity, the cat. Possibly Felicity had meowed from behind her and attracted her attention. And what does the killer do? She draws a Brymer beamgun and kills the cat! Why?"

The Pogatha looked at each other and then back at the Major. Their faces, thought Sister Mary Magdalene, were utterly unreadable.

"Then the killer picked up the cat, walked outdoors through the rear gate, and threw it into the meadow. It was this figure that Sister Angela saw last night, but the killer had pushed the wimple back, so she didn't realize that she saw a nun's habit, not a monk's. When the killer had disposed of the cat, she removed the habit, wrapped the beamgun in it, and went into the chapel and put it under one of the pews."

"Very plausible," said Vor Vun. "But not proof that one of *us* did it."

"Not so far. But let's keep plugging; why did the killer wear the nun's habit?"

"Because was nun!" said Vor Betla. She pointed an ac-

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cusing blue finger at Sister Mary Magdalene.

"No," Brock said. "Because she wanted Vor Nollig to let her get close enough to stab her. You see, we've eliminated you, Vor Betla. You shared the room; you would have been allowed in without question. But Vor Nollig would never have allowed a Green or a Yellow into her room, would she?"

"No," admitted the Blue, looking troubledly at Vor Vun and Vor Gontakel.

o

"ANOTHER point in your favor is the fact that the killer looked like a monk to Sister Angela. There are no dark-skinned monks at this cathedral, and Sister Angela would have commented on it if the skin had looked as dark as yours does. But colors are almost impossible to see in moonlight; a yellow or light green would have looked pretty much like human skin, and the features at a distance would be hard to recognize as belonging to a Pogath."

"You are playing on prejudices," said Vor Vun angrily. "This is an inexpensive trick!"

"A *cheap* trick," corrected Major Brock. "Except that it isn't. However, we must now prove that it was a Pogath. We've smelled each others' food, haven't we? Now, a burnt cat would smell no differently than, say, a broiled steak—except maybe a little more so. Why would the killer take the trouble to remove the cat from the building? Why not leave it where it was? If she expected to get away with one killing, she could have expected to get away with two.

"She took the cat out simply because she couldn't stand the overpowering odor! There was no other possible reason to expose herself that way to the possible watching eyes of Sister Angela, or any other nun who happened to be looking out the window. It was clever of the killer to think of dropping the wimple back and disposing of the white part of the headdress, so that she would appear to be a monk. I imagine it also took a lot of breath-holding to stand carrying that burnt cat that far."

The Pogatha were definitely eyeing each other now, but the

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final wedge remained to be driven.

"Vor Gontakel!" the Major said sharply. "What would you say if I told you that another cat at the far end of the corridor saw you stab Vor Nollig and burn down Felicity?"

Vor Gontakel looked perfectly unruffled and unperturbed. No Earthman's bluff was going to get by *her!* "I would say the cat was lying."

"THE OTHER two Pogatha got a confession out of her," said Major Brock that evening. "They'll take her back to Pogathan to stand trial."

Father Destry folded his hands and smiled. "Sister, you seem to have all the makings of a first-class detective. How did you figure out that it was Vor Gontakel? I mean, what started you on that train of thought?"

"Sister Elizabeth," the nun said. "She told me that Felicity had been murdered. And she *had* been—murdered, I mean, not just 'killed.' Vor Gontakel saw me talking to the cat, and heard Felicity meow back. How was she to know that the cat wasn't intelligent? She knew nothing about Terrestrial life. The other two did.

"Felicity was murdered because Vor Gontakel thought she was a witness. It was the only possible motive for Felicity's murder."

"What about the motive for Vor Nollig's murder?" Father Destry asked the major.

"Political. There's a group of Greens, it seems, who are determined that the war should go on. Most of the war is being fought by Blues, and if they're wiped out the so-called minority groups could take over. I doubt if it would work that way, but that's what this bunch thinks. Vor Gontakel simply wanted to kill a Blue, and have it blamed on the Earthmen, in order to stop the peace talks. But there's one thing I think we left untied here, Sister. Have you stopped to wonder why she used a knife on Vor Nollig instead of the beamgun she was carrying?"

SISTER MARY MAGDALENE nodded. "She didn't want every sister in the place coming out to catch her before

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she had a chance to cover up. She knew that a burnt Pogath would smell as bad to us as burnt cat did to her. But she didn't have a chance to use a knife on Felicity; the cat would have run away."

Major Brock nodded in appreciation. "A very neat summation, Sister. I bow to your fine deductive abilities. And now, I imagine, we can get our staff off the Cathedral premises and leave you people to your devotions."

"It's unfortunate we had to meet under such unhappy circumstances, Major," the nun said.

"But you were marvelously helpful, Sister."

The Major smiled at the nun, shook Father Destry's hand tentatively, as if uncertain that such a gesture was appropriate, and left. Sister Mary Magdalene sighed gently in relief.

Police and aliens and all were leaving. The Cathedral was returning to its normal quietude. In the distance the big bell was tolling, and it was time for prayer. She was no longer a detective; she was simply Sister Mary Magdalene of the Sisters of the Holy Nativity.

It would be good to have peace here again. But, she admitted wryly to herself, the excitement had been a not altogether unwelcome change from normal routine. The thought brought up old memories of a life long buried and sealed away with vows. Sister Mary Magdalene frowned gently, dispelling the thoughts, and quietly began to pray.

COMING IN OUR DECEMBER ISSUE

THE RACE INTO SPACE

Starting a series of definitive articles

by Thomas N. Scortia

Don't miss "Operation Bootstrap", the first article — it will be in the December issue — on sale at all stands, October 1st

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fueling stop

by Calvin M. Knox

Those furry little humanoids of World Six, in a remote stellar system, were friendly and playful — much too playful!

Planets of perpetual winter weren't new...

SOMEDAY, they're going to invent a detector that enables a spaceman to see at a glance whether the planet in his screens is a good source of fuel or not. They'll invent a gadget that will give off a thousand-cycle *ping!* to indicate that radioactive ores may be had down yonder.

We didn't have the benefit of any such doodad. We were

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on our way from Alpha Persei XI to Beta Ceti III—a considerable hop even under multilight drive—and we were running low on fissionables to fuel the ship's power-pile. Even the occupants of a two-man EPS scout-ship appreciate such comforts as warm cabins, heat for cooking, and the like; and the way our radioactive index looked, we were going to have to start economizing if we wanted to finish the trip with the pile still functioning. Rather than become neutron-pinchers we decided to make an emergency stopoff at the first planet en route that seemed to be a likely source for radioactives. That was when I began wishing somebody would invent a jigger that would pick out such worlds from space.

Lacking such gadgets, we did have certain methods we could fall back on. For one thing, we knew there was no sense in landing on a pint-sized world of low density; it simply wouldn't have any of the heavy radioactive metals we wanted. For the same reason, it was pointless to pick out a planet that looked as if it was just about as old as the universe itself. Radioactives don't last forever, and a really *old* planet would have some dandy lead deposits but not much else.

THE PLANET we finally picked was World Six of Stellar System DB-158301. That was the only designation we had for it in our charts; there are a lot of planets in the galaxy, and it would take a long time to tag a name to each one. Carpenter looked up World 7 in the ephemeris and found that it was inhabited by Sixth Level humanoid life-forms, had an atmosphere that Earthmen were not encouraged to breathe, and was roughly Earthnorm so far as diameter and density went—which told us that we were likely to find the radioactives we were searching for on it.

I worked out a landing orbit in a jiffy on that marvelous bit of ingenuity, the Mark V Portable Astrocomp; and not much later, we were spiralling down to the surface of the planet for a nightside landing.

WE CAME down in the midst of a broad, flat ice-field that stretched off in all

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directions, broken up only by barren clumps of upjutting rock. A small moon hung in the night sky. Our external-temperature gauges told us that it was Minus Twenty outside, and harsh winds blew swirling methane clouds up at us. Not a pretty planet at all, and I wondered about the sort of life-form that inhabited it. A scout-ship had touched down here some five years back, according to the records; and evidently they had had some contact with the natives—enough contact to classify them as Sixth Level along the Macpherson Cultural Scale.

Sixth Level means a fairly high level of culture—food-producing, with good standards of craftsmanship but no mass-production concept of technology yet. Sixth Level peoples are still primitive, but they can give you a rugged time if they put their minds to it.

We made our first contact with the native intelligent life-of World 7 about fifteen minutes after landing. Carpenter was rigging the gamma detectors for our radioactives search, and I was busy elsewhere in the ship.

Carpenter said, "There's something outside throwing snowballs at us."

I came over to see. A snowball indeed had been hurled, and had flattened itself to the outside of one of our viewports. I scowled at that: the viewport was sixty feet above the ground, and the snow was going to stay there until the heat of atmosphere entry melted it away.

Then I saw the alien.

HE WAS STANDING about twenty feet from the ship, looking up at us and grinning like a small boy. I saw a furry brown humanoid shape, naked except for some sort of kerchief knotted round his neck.

"Let's go down and meet him," I suggested. "Maybe he can help us out."

Carpenter nodded. He headed for the spacesuit rack, and I followed him. Minutes later, we were on our way through the airlock, and I held clutched in my arms the precious eighteen-pound weight that was our Mark V Astrocomp—the miraculous device that not only plotted our courses but could also serve as a translating am-

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plifier for alien languages, as well as regulating the ship's pile and performing half a dozen other functions. The Mark V was a triumph of cryotronic subminiaturization, an awesome technological achievement made possible by the development of a helium cryostat one inch square.

I led the way through the airlock, Carpenter behind me, and by pressing a key on the Astrocomp I shut the airlock door by remote wave. I nudged another key and said to the alien, "Greetings. We are men of Earth."

THE ALIEN was about three and a half feet high, from his furry flat-topped head to his—I almost gagged with surprise—his furry feet, to which ice-skates were attached. He was definitely humanoid, and from a simian stock; but I suspected his most immediate ancester had been of the tarsier branch of the primates rather than of the main stem. He had big goggly eyes set in massive bony orbital ridges, a flat tiny nose, a mouth upcurved in a devilish grin, and not very much chin or neck. His only garment was the neckerchief, but his body was covered by a thick, coarse brown fur that must have kept away the cold very efficiently.

The ice-skates got me, though. They were very Terran in appearance; a bit crudely turned, but neat and sharp, with keenly-honed runners that curved upward in front. He stood with his arms folded, rocking back and forth slightly on the runners of his skates. What better way to travel, I asked myself, on an icebound world like this one?

The alien said something in a thick guttural language and the Astrocomp rendered it, after a momentary lag, as, "How may I cheat you?"

Carpenter and I looked at each other in alarm and bewilderment. Then the Astrocomp crackled ostentatiously and added, "Correction: the most adequate rendering should be, May we do trade?"

I smiled in relief. The Astrocomp was a marvelous doohickey, but it wasn't perfect. Not even alien races went around opening conversations by asking, *How may I cheat you?*

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I said, "We aren't here for trading. We have simply made a brief stop-over to find some fuel."

A PAUSE while the Astrocomp turned my words into gibberish. The little alien listened gravely; then, rolling his eyes so one pointed at Carpenter and the other at me, he said, "What substance do you use for fuel?"

"Radioactives. Unstable elements." I searched for simpler words, felt sweat beading my forehead within the space helmet.

Carpenter said, "Metals that break down into simpler ones. That give off radiation. That..."

"The last Earthmen who visited us mined a substance they called *pitchblende*. Would this be what you seek, Earthmen?"

"Yes!" Pitchblende is uranium ore, a mixture of the brown and yellow oxides of uranium. It was exactly what we were looking for. The converter of the ship's atomic pile gobbled the stuff raw, extracted the fissionables and excreted the rest. "Pitchblende is exactly what we want," I said excitedly. "If you could show us where the veins are..."

"I will bring a supply of the substance to you," the alien said blandly.

"And what will you want in exchange?"

"I will bring the ore out of the goodness of my heart," said the little creature. "How much will you require?"

I CONFERRED with Carpenter. Assuming that the stuff was reasonably pure, we didn't need much—a few pounds would see us through any conceivable need, and then some.

I pointed to the Astrocomp, which I had rested on the ice nearby. "We could use an amount about as big as that box," I said.

The alien nodded thoughtfully, studying the Astrocomp. Then he said, "I will do it. Yes. I will bring you what you desire."

He skated over to the Astrocomp, peering down at it as if to get a closer look. He knelt, examining the row of control dials, the oscilloscope panel, the charge indicators. An As-

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trocomp is a fascinating sight; I couldn't blame the little alien for being so entranced by it.

I was visualizing a long line of furry aliens skating gravely across the icefield, each bearing slung over one shoulder a little sack chock-full of pitchblende. We had figured on a rugged session of prospecting; instead, we were having our fuel handed us on a platter.

It was a pleasant daydream. While I was busy dreaming it, the little alien stooped for a closer look yet at the Astrocomp. And then, before I knew it, he had gathered the irreplacable device into his wiry little arms, had grinned cheerfully at me, turned, and was streaking rapidly away on his skates!

IT TOOK me perhaps a microsecond to realize what had happened; that was long enough to let the little thief get a head start. He was ten or fifteen feet along before I even got my feet into action.

It's no cinch running over ice, even in spaceboots—and especially when you're chasing a creature who is both native to the area and equipped for travelling fast and safely. I broke into a lumbering unsteady trot, bawling after the alien, "Hey, come back here with that! Come back here!"

I might just as well have been shouting Ancient Armenian recipes, because the alien couldn't understand what I was yelling, and probably didn't care anyway. He just kept on going. I could picture the devilish glint in his eyes as he gloated over the way he had swiped a no-doubt valuable bit of equipment from a couple of damfool Earthmen.

Still, for all its miniaturization, an Astrocomp is a pretty heavy piece of merchandise for a being only three feet and some inches high to run away with. The alien was finding it slow going—relatively slow, anyway. He moved with uncanny grace, taking good care to keep ahead of me. My legs were twice as long as his, but I was four times as clumsy. Maybe I would have caught up, maybe not.

BUT ABRUPTLY I was taken out of the contention. I lost my footing and went skidding along on my belly

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We'd encountered various intelligent aliens ...

over about ten feet of ice, stopping only when I managed to snag a rock outcrop with my boot. When I looked up, I saw the little devil fifty feet away, and vanishing rapidly with his arms wrapped, safely round what had been our computer, navigating device, control center, and translator.

I sat up and a moment later heard a crash behind me. Turning, I saw Carpenter flat on his face on the ice. He had given chase, too—and had no more success than I had.

Elbowing myself up from the sitting position, I gingerly made my way over to Carpenter and dragged him to his feet. For a moment, there was nothing either of us could say.

"He—he just grabbed it and skated away," Carpenter muttered. "Lifted up the Astrocomp and beat it."

"Yeah," I said.

That was our entire conversation as we carefully crossed the ice and returned to our ship.

WE BROKE out some food and ate a morose meal; then I sat down with pencil and paper and started figuring out a blastoff orbit. Every spaceman is supposed to know how to calculate for takeoff and landing; in practice, the Astrocomp does all that sort of routine stuff, but we didn't happen to have an Astrocomp on board. It's not considered

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normal procedure to carry a spare. The way they package them, it's pretty close to impossible to damage an Astrocomp unless you set your mind to it; and the Survey Corps just doesn't figure on having its men let aliens *steal* the devices.

So Carpenter searched through the ephemeris for the nearest Terran base, which turned out to be a four-parsec hop, while I sweated over the complicated and annoying job of computing our nullspace entry. The job takes more sweat than brains; you simply have to balance out a few dozen simultaneous factors, checking each one to five or six places. It's a hellish job, but the Astrocomp does it in seconds. Only our Astrocomp was probably getting cackled over triumphantly in some alien tarsier-warren by this time. We felt like saps. But how were we supposed to know the alien was hunting for Earthman souvenirs, and was going to grab anything detachable?

AFTER THREE or four hours of dreary arithmetic, I decided I had just about had it. I shoved myself away from the desk and glared at Carpenter.

"I'm knocking off for the night. You want to finish the job?"

Carpenter was never very much good at computations. He shook his head and said, "No, thanks; I'm going to sack out."

It was as good an idea as any. I took a couple of tranquilizing tablets just before climbing into the hay—I didn't want to have nightmares about little thieving furry aliens—and I slept soundly right through until the moment the next morning when another snowball splatted against the viewport.

I was up and at the window so fast I surprised myself. And there was our ice-skating friend, looking up from down there and grinning, and pointing to a sack sitting on the ice a few feet from the right stabilizing fin of the ship. He grinned broadly, pointed at the ship and then at the sack, turned, and hightailed it across the ice-field. Maybe he figured we were going to come after him with blasters and force him to give back the Astro-

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comp. He would have been right, too.

But he was gone by the time we were in our spacesuits and out the airlock—opening it manually this time, because the Astrocomp was AWOL. All we saw was a dwindling brown dot on the horizon. But the sack still lay near the ship. Carpenter examined it, fumbled out his gamma detector, took a reading.

"It's radioactive," he said.

It was pitchblende.

THE CONVERTER gobbled the stuff up greedily, spitting out the impurities and keeping only the pure fissionable U-235 it hungered for. The alien had come through, all right; he'd delivered the goods.

We blasted off out of there an hour later with Carpenter at the controls, using my calculations; it wasn't a bad blastoff at all, considering the fact that we were doing it by the book for the first time since training school. We subradioed ahead to the Terran base that we were coming, and would need a replacement Astrocomp. We didn't say why; we didn't dare.

Carpenter said, "It doesn't make sense—first stealing the Astrocomp and then bringing us the pitchblende anyway! We couldn't have gone after them—he didn't have to bring the ore."

"Packrat," I said.

"Huh?"

"Packrat. It's a Terran animal. Steals bright and shiny things and brings replacements. It'll take a piece of silverware and bring a twig, stuff like that. But it *always* trades. I guess it's the same with these people. Grab the Astrocomp, bring us some ore. The ore's useless to them."

"So is the Astrocomp."

I looked at Carpenter in sudden puzzlement. "Yeah—but it's bright and shiny. Maybe they like to play with gadgets."

WE MADE our landing at the Markab base a day later, and they had a replacement Astrocomp waiting for us. We managed to ignore the questions they asked about how

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we had contrived to lose the computer, and we completed our flight to Beta Ceti III without further mishap.

But I've been wondering. Was that little furry beast a packrat, a mere acquirer-for-the-sake-thereof—or did he have some special reason for wanting the Astrocomp? Suppose the first scout survey was wrong; suppose those people are Level Nine instead of Level Six. In that case an Astrocomp would be quite a thing for them to have. It might cause a wholesale technological revolution.

I sort of think the Corps should send scouts back to World 7 for another look. But Carpenter and I filled out a Loss-of-Materiel form that said we had accidentally dropped the Astrocomp down an ice crevasse, and I'd hate to have to admit now that we had lied, that the computer had really been snatched by a crafty little ice-skating alien.

So we're keeping quiet about it. I intend to wait and see—and to hope for the best.

?Do You Know Your? Scientific Experts?

Quiz feature by JOSEPH C. STACEY

LISTED below (in jumbled fashion) are the technical names of 25 scientific experts, together with the fields in which they specialize. Can you match up at least 15 of them correctly for a passing score? 16-to-22 is good; 25-24-or-23 excellent.

What would you call an expert on

1. human and animal behavior? — (a) NEPHOLOGIST
2. eyes? — (b) ADENOLOGIST
3. the causes of diseases? — (c) ZYMOLOGIST

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4. organic tissues? — (d) PSYCHOLOGIST
5. human relationships? — (e) NEUROLOGIST
6. skin? — (f) AEROLOGIST
7. diseases of the mind? — (g) ANGIOLOGIST
8. shells? — (h) OPHIOLOGIST
9. skulls? — (i) DERMATOLOGIST
10. the therapeutic use of gases? — (j) SEMEIOLOGIST
11. language? — (k) HELMINTHOLOGIST
12. the nervous system? — (l) ETIOLOGIST
13. sign language? — (m) PNEUMATOLOGIST
14. clouds? — (n) GEOMORPHOLOGIST
15. the higher strata of the atmosphere? — (o) HYDROMETEOROLOGIST
16. the bones of the skeleton? — (p) PSYCHOPATHOLOGIST
17. the origin and evolution of the earth's topographic features? — (q) GLOTTOLOGIST
18. glands? — (r) CETOLOGIST
19. snakes? — (s) HYDROLOGIST
20. worms? — (t) OPATHALMOLOGIST
21. whales? — (u) CRANIOLOGIST
22. enzymes? — (v) HISTOLOGIST
23. the waters on the earth? — (w) CONCHOLOGIST
24. water in the atmosphere? — (x) SOCIOLOGIST
25. blood vessels? — (y) OSTEOLOGIST

(You'll find the answers on Page 109)

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This little pastiche can be sung to the tune of "The Flowers That Bloom in the Spring", if you repeat the last three lines of each stanza.

It's All How You Look At It

by ISAAC ASIMOV

The Sputniks that fly in the sky, tra la,
Bring promise of space-flight quite soon.
It's plain that the rockets will try, tra la,
With burning and whooshing to hie, tra la,
To a quick rendezvous on the Moon—
To a quick rendezvous on the Moon.
And that's why excitedly all of us cry,
Just think of the Sputniks that fly in the sky,
Just think of the Sputniks—
Just think of the Sputniks—
The Sputniks that fly in the sky.

The Sputniks that fly in the sky, tra la,
Are stealing our very best plot.
As on through the vacuum they ply, tra la,
With space-flight as easy as pie, tra la,
S. F. will be going to pot—
S. F. will be going to pot.
And that's why we dolefully whimper and sigh,
We'll sue those damn Sputniks that fly in the sky,
We'll sue those damn Sputniks—
We'll sue those damn Sputniks—
The Sputniks that fly in the sky.

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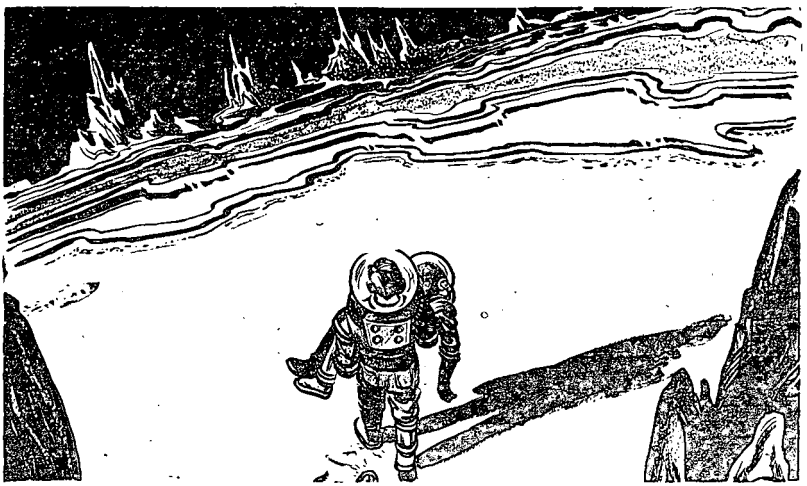

Man's conquest of space had just started, before the aliens came to Earth...

THE VARIABLE CONSTANT

Novelet by RUSS WINTERBOTHAM

Out of space came the Beorhi, to rule Earth and its peoples, guided by the device they called "The Instrument". Now, several generations later, the long-foreseen crisis had arisen; and not only Gerd Thane, but also Alciar, Febris, and Charis Ryna were expected to play the roles they would now perform. But a machine that can give first-order predictions can only prophesy so much; and the probabilities that the Instrument stated did not include the unpredictable human element.

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A MAN CLOTHED in black tunic and pantaloons, with a close-fitting skull-cap on his head, touched Gerd Thane's arm. "If you're through, come with me."

Thane looked up and saw the silver seal of the Beorhi suspended by a chain on the man's chest. He saw the deep-set eyes and the narrow countenance of Acair, the Chief of Police.

Thane realized this might well be his last day on earth.

He stood up, clicked his heels and bowed, as prescribed for everyone in the presence of an official who wore the Silver Seal.

"Febris has sent word that I am to come immediately to his office." Thane reached into his pocket and pulled out a slip of paper on which the order was written.

Acair glanced at the signature. "Febris be damned. Come with me."

"I must pick up my tools," said Thane. He leaned over and started putting them in his bag.

Acair's foot shot out, kicking the bag out of Thane's hands and sending it across the room. It struck a worker, who did not seem to notice.

None of the workers seemed to notice what was going on, and there were many in the factory where Thane had been making repairs. They stood with lusterless eyes, staring vacantly at the machines in front of them. Their ears had grown accustomed to the whine and the whir, the clang and the clatter, and that they no longer heard the din. Every sense was conditioned to the task.

It was not all conditioning. Thane knew that part of it was heredity. For six hundred years, human beings had been bred selectively by their overlords, the Beorhi. Now most people were rubber stamps of what the Beorhi considered prime man—men who caused no trouble, who had no independent thoughts, and who did exactly as they were taught and told to do.

THANE, HOWEVER, was different. He was a throwback, one of the few permitted to live on the face of the earth. Most throwbacks were liqui-

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dated as soon as tests proved they would not conform to the master plan; but some were placed in government positions. Acair, himself, was one of these—a man needed to spy on other throwbacks, and to carry out the orders of the Beorhi.

A few like Thane were needed for special occupations—such as electronics, in which Gerd Thane was a master technician. These few were isolated in fact and in theory. They were not permitted to have friends; they could not marry, and they were restricted to certain quarters of the city.

Thane stood up trying to restrain his anger. He was near death, he believed. Acair had suddenly decided that Thane's usefulness was ended—or at least so it seemed. Thane wondered why Acair bothered to make the arrest himself; he wasn't sent to dirty his own hands with such jobs.

But suddenly and inexplicably Acair's manner softened. "You will never need your tools again, Gerd Thane, and you have nothing to fear. From this moment on, you will enjoy the privileges of an officer of the government, a servant of the Beorhi."

Thane shook his long black locks, and looked down at Acair—for he was fully a head taller than the frail, sharp-faced police officer. "Is this why Febris wanted to see me?"

Acair seemed amused. "In a manner of speaking. Later, I'll tell him why you didn't keep your appointment. Come on, Long Haired One; my business is urgent."

THANE FOLLOWED, half-smiling at the reference to his hair. For months Gerd Thane had spent money for books instead of haircuts. Books were rare; and generally forbidden; most of them were very old, dating back to the Twentieth Century; eight hundred years gone, and two hundred years before the Beorhi came out of space to become Overlords of the Earth.

Acair led his companion to an underground conveyor belt which whisked them to the Palace. They stepped off the belt and entered a long, wide tunnel which ended in front of a bank of revolving doors, guarded by police in green uniforms.

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The officers saluted the Silver Seal worn by Acair, and stood at attention till he passed. Acair plodded straight ahead, past the public elevators to a private car in the back. They went up many floors and got off in a large square chamber.

On all sides of the room were doors; and in front of each stood a man in the red tunic and blue pantaloons of the Royal Guard. Each of these was armed with a heavy Service revolver, but as Acair stepped from the elevator they clicked their heels and bowed. Then one opened a door and stood aside as Acair led Thane into his private office.

At first Thane thought the wall on the far side of the room was alive; then he realized it was divided into four large television screens on which were lifelike figures. Each screen showed some government activity. One covered the spaceport; another revealed planetary defense units, with space-narks ready to defend Earth from interstellar attack; others showed offices, with important figures going about their business.

There was no sound, but each picture was in color.

"Sit down," said Acair, still watching Thane with amusement.

THE YOUNG man sat, still watching the screens.

"Interesting, isn't it? These are monitor screens of the Palace circuit. Rhys controls them directly from his study, and he changes the scenes by pressing buttons like these." Acair pointed to a panel at his left.

"It is rather confusing without sound."

"Oh, the sound's there," said Acair, touching a red button.

Instantly, one of the pictures grew brighter. Gerd Thane saw that it was the defense setup. A colonel in the foreground was giving orders to his men, who went through the operation of loading a space-nark and adjusting its aim.

"Colonel!"

The colonel broke off and turned, facing the camera, at the sound of Acair's voice. He saluted immediately as he saw the official's face in a monitor at his end. "Yes, sir!"

"How long have you been on camera?"

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"More than two hours, sir, and it is very trying. Some of our men are camera-shy and they make the damnedest mistakes."

"Don't worry about it," said Acair. "I don't think Rhys is watching." He switched off the sound by releasing the button, then turned to Thane. "Rhys usually looks at about a score of pictures a minute; but now the scenes aren't changing, which is a pretty good sign he's not watching."

"You can't control them?"

"No, and it's not very helpful to me," said Acair. "Everyone knows when he's on camera, and nobody's going to do anything that will get himself in trouble. When we want to pin something on somebody, we plant an undercover operator."

THANE WATCHED the picture until he heard Acair's voice again. "There may be an explanation as to why Rhys is not watching; he may be ill."

Thane turned his eyes from the scene. "I hope his majesty's illness is not serious."

Acair laughed. "Don't give me that. You're a throwback, one of the few capable of hating Rhys and every other Beorhus on Earth. You'd be pleased as a fat hog if every last one died."

Thane couldn't help feeling shocked at words he had never heard spoken aloud, for all that they expressed his thoughts exactly. Acair must be very sure of himself.

"Don't worry, lad," said Acair. "I'm not trying to trick you. Now tell me; have you heard about the epidemic?"

"Epidemic?... What epidemic?"

"I guess our isolation of throwbacks is gossip-proof if you haven't heard it. Well... very few know about it, outside of some high officials. An epidemic has done what we human beings haven't been able to do for six hundred years; it's gotten the best of the Beorhi."

Thane's eyes widened, but he said nothing.

"It is time now for earthlings to strike if they want independence," said Acair. "I'm not talking about these dull-eyed pigs who don't even know they're alive. I'm speaking of throwbacks, like you and me."

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THE MAN was talking revolution, and Thane was in favor of it—he had nothing to lose. But he wished that he had someone other than Acair to plot with. Someone he trusted.

"Here's the situation," Acair went on. "About three years ago a Beorhus living in Australia came down with an illness completely strange to them; and at first, it was thought it was something he'd caught from earthlings. But our medics couldn't diagnose it, either. It's a horrible infection; it's like gangrene, but it's Beorhi gangrene and it's contagious."

"Oh!" said Thane.

"Don't be alarmed; it doesn't attack earthlings... The first Beorhus died; so did the second. In three years, the whole race has been wiped out—except for one.— Twenty thousand of these caricatures of human beings, who come from God knows where, have been wiped out."

Thane felt alive, really alive. It was as if some great weight had been lifted from his shoulders.

"The one survivor," continued Acair, "is Rhys XXVII, the Big Boss of our planet. And he alone knows the secret that made his race the rulers of mankind. How long he'll escape is only a question of time; sooner or later, he'll succumb to the disease. When this happens, we must seize The Instrument."

THE INSTRUMENT. Gerd Thane often had wondered what it was, but neither he nor any other man—not even Acair, or Febris, the Adviser—knew how it operated, or what it was. All that was known was that this machine had enabled fewer than 100 Beorhi—who landed on Earth six hundred years ago—to conquer the planet.

The first Beorhi pilgrims had been welcomed by space-conscious earthlings. They were received as friends and scientists, lavishly entertained, and presented with the highest honors, giving mankind a few spectacular gadgets in exchange. It was much the same as the Europeans trading glass beads for Indian land.

Then by intrigues, and carefully-calculated coups, the fox put his nose into the hen

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house; and it was only a matter of time before he was able to squeeze in his entire body. Human beings found themselves second class citizens on their own planet. The conquest was not entirely bloodless, but the Beorhi operated so smoothly that Man was scarcely aware of the change. And it was done with The Instrument.

"Seize it?" Thane asked. "Best destroy it."

"Don't be dense," replied Acair. "Someone must rule the Earth after the Beorhi die. Better us than someone else—like Febris."

"I won't help you," Thane said.

"Choose your words carefully, friend. I can make things very uncomfortable for you. If you are counting on help from Febris..."

"Febris is no patron of mine."

"Even if he were, I'm not sure he could help you." Acair looked sharply at the young man. As head of the police, he had access to records which showed exactly what kind of a person Gerd Thane was. The Beorhi had ways of working these things out. Perhaps The Instrument could measure a man's character. This must have been how the conquest was done—the Beorhi knew in advance just what human reaction to expect to any move they made. They had studied men's weaknesses, learned how humans could be bribed, coerced and flattered arranging man's downfall.

THANE HAD read in his books that one of the ancient sages of mankind had shown that those who enslaved were the greatest slaves. He was not sure of the exact wording, but this was the thought. "I'll have no part in taking the place of the Beorhi," he said.

"Think of what you're saying!"

"I've already thought it out. Throw me in prison—do what you will. If the Beorhi have conquered the world with some sort of special machine, or some new weapon. I won't help you learn to use it."

"What are you saying?"

"Simply that if freedom is within man's grasp. I'm not going to help it get away."

ACAIR WAS trembling with anger, but he restrained

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himself. "Be sensible," he said. "You have everything to gain and nothing to lose. Certainly, there won't be much change in the world, but your own individual fortune will be much better. You will be the most wealthy, the most powerful man on Earth, except for myself. You will have special privileges—the privileges the Beorhi enjoy now..."

"The privilege of sending men to their doom, I suppose."

"Bah! Why should you care what happens to other men? Think how much better off *you'll* be."

"I don't think any amount of comfort will erase the knowledge of what I'm doing to others," said Thane. "You see, I've been an underdog too long."

Acair clenched his fist. "One last chance. Remember, you may regret your decision if it's the wrong one. I can make you suffer considerably..."

"Not half as much as I'd suffer making the decision you think is right. Go ahead. Do your worst."

"I will." Acair touched a buzzer and the door swung open. A uniformed guard, looking smart except for his dull eyes, stepped in and saluted.

"Put this man under arrest," Acair said. "For treason."

The guard stepped forward and snapped handcuffs on Gerd Thane's wrists.

"At least," said Thane, "I'll get a hair cut while I'm in jail."

II

ELSEWHERE in the Palace of the Beorhi at that time, Cort Febris, Adviser to Rhys XXVII, had just entered the Royal Bedroom. Febris closed the gold-studded door behind him, took a short step forward, halted and tried to click his heels; but his legs were too fat—he bowed.

"Forget that infernal nonsense, Febris," came a brittle voice from the bed. "I'm too sick for that foolishness."

The Adviser did not stop; it was unthinkable to his conditioning that even he should enter the bedchamber of Rhys XXVII without executing the triple bow. Rhys did not wear the Gold Seal of his office, but

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it was imprinted on the canopy above the bed.

The third bow. "I'm dying," said Rhys harshly, "and you stand there gyrating like a slat on a hinge. Or, I should say, like a barrel on a hinge."

"I do as your ancestors ordained," said Febris solemnly.

"Curse you. Curse my ancestors. Curse Rhys the Great for bringing our seed to this infernal planet."

Febris paled, unaccustomed as he was to hearing the sacred ancestors cursed. He went to the bedside. The covers outlined the frail, twisted body. Rhys looked small, thin, and even less human than usual. His long arms looked like thin rods, with the skin stretched tightly over them. Beneath the leathery skin, Febris saw the throbbing pale green veins and cord-like muscles. Rhys' large oval head, much larger at the top than at the bottom, was sunk deep into the pillow. It was bald. A long hooked nose, a tiny chin, and a fish-like mouth. Two large liquid eyes seemed to dominate the face. They were brown and like man's, except that they moved independently; and sometimes one eye looked down while the other looked up.

"I have caught the contagion," said Rhys. "I, the last Beorhus, am dying."

FEBRIS pulled down the covers and looked at the shrunken body. The symptoms were there—the great black spotches on the yellowish skin, like over-ripe spots on a banana.

"I'll give you the drugs," said Febris.

"They have all been tried," said Rhys. "There is no cure. I have even used the Great Instrument, but to no avail. All I know is that, during the six hundred years my race has been on your planet, a chemical change has been taking place in our bodies. As a result, we have become susceptible to a virus. The disease has a way of appearing suddenly and inexplicably. Perhaps if it had been slower in manifesting itself, we might have found time to cure it. But it is too late for that now; in twenty-four hours I'll be dead, and there are many things to do."

"Aye," said Febris. "Indeed, things must be done."

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Rhys' long arms reached out feebly and pulled the covers back over his chest.

"You do not know whence the Beorhi came, and it is not important. It is enough to tell you that it is far from your sun, and there are many of us still living on the planet of our origin. Special ultra-dimension navigational factors made it possible for us to reach Earth in a few months, but the return trip requires years. Communication by electronic methods is virtually impossible—not only from a standpoint of power, but because of the many years a message must travel before reaching its destination.

"SOME YEARS ago, during the reign of my father, Rhys XXVI, a messenger was dispatched, giving an account of our colony here on the earth." Rhys paused and looked reflectively at Febris, wondering if the earthman realized the full import of the message.

"I have calculated the time needed for the journey, and I had reason to expect the messenger's return during my reign. Along with him may come a new expedition of Beorhi to join us here." Again he paused.

"I trust they will not come now," said Febris; "they may catch the virus."

"I'm not afraid of that. Since my race required six hundred years to become susceptible, the new colonists will be safe for a time. Before the danger point comes, we'll have a cure."

"Have you any idea when the Beorhi will arrive?"

"It may be tomorrow, or it may be next year," said Rhys; "but it will not be too far in the future. However, the fact remains that neither myself nor any of my kin will be alive to see them." Rhys was wondering about the strange light in Febris' eyes; he had never seen the little fat man so excited before.

"Men of Earth will receive them gladly," Febris declared solemnly.

"They will scarcely notice. Through the centuries we have bred initiative out of the race of man, except for a few throwbacks, such as you and Acair. A certain amount of initiative

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is needed to conduct our affairs, and we can trust men like you to carry out our orders. All of you know that you are better off under us than you'd be without us. The rest of the earthlings are dead—except in the matter of chemical reactions inside their body. They have no hope, no ambition, no initiative. They do not think of tomorrow, and as long as they are fed regularly, they are happy. We have domesticated man."

RHYS PLUCKED at his cover. "I hope that I can keep death away for twenty-four hours; there is much to be done."

Febris shook his head. "You are far too weak to do anything, sir. Even if you can maintain life within your body, you cannot move; the disease robs you of strength."

Rhys' large eyes seemed to glaze. Febris had seen many of the Beorhi die of this disease; he knew that Rhys would soon be utterly helpless. The ruler could talk, of course, but his long arms would be unable to touch the alarm device at the side of his bed.

"At this moment," said Rhys, "I am the only living creature on Earth who knows the secret of our power. It must be preserved for the Beorhi who are coming here." he gazed up at the earthman. "You, Febris, are a horrible thing in which to place the trust of a Beorhus!"

Febris bowed as if it were a compliment. "Sir, your trust could not be placed in better hands."

"I know you!" exclaimed Rhys. "A slimy, hand-licking sycophant. But at that, you're the only earthling that I know will do as I say. You don't dare do otherwise than serve the Beorhi—your own kind would tear you into small cube steaks and feed you to the dogs! You're the most hated man on Earth, Febris; don't forget that. Even men who know nothing, and cannot think, would like to see you dead. Their souls know that through you, and your kind, they have been thrust into ignorance and slavery!"

"What I have done," said Febris, "was through loyalty to the greatest creatures in creation, sir." His face was pale.

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RHYS CONTINUED, without taking notice of his remark. "Below the Palace, is a secret room. In that room is The Instrument; it is like a machine, yet different. *It* does not act, it tells you how *you* should act. It can kill the spirit in a human being by exposing his vulnerability. One of your leaders once said that there were greater dangers than that which merely kills the body—and he could have been talking about The Instrument.

"In an envelope under my pillow is a set of instructions on how to operate the machine, as well as questions, written in mathematical form, for it to answer. Take these instructions; use the secret passages to avoid being halted by Acair's guards; and enter this subterranean chamber without being seen. Operate the machine as I have set forth in my instructions. Get the answers and bring them here to me. I will then give you orders for your course of action after I am dead."

The eyes of the little fat man grew bright with excitement. "I would do as you say, sir, except for one thing."

The dying ruler's eyes grew more cloudy. "Have I overlooked something, Febris?"

"Alas, my lord, my reward!"

Rhys tried to stir, but he was too weak to rise from his pillow. "I can give you a reward—I'll turn you over to Acair!"

"I would not, sir, if I were you," said Febris, smiling. "He might not be as good a risk as I am to carry out your orders."

Rhys closed his eyes and nodded; of the two, Acair was less trustworthy. "What do you want?"

"You say that perhaps a year will elapse before the Beorhi arrive. During that time, someone must rule Earth and keep your empire intact, so the domain can be turned over to your kind without trouble. May I suggest, sir, that you make me your heir—to rein as Febris I?"

FOR A MOMENT, Rhys lay as if stunned. Then his fish-like mouth opened and laughter burst forth. "Make *you* ruler? That is impossible. No other earthling would accept

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you; there is nothing about you that isn't duplicated over and over throughout the world."

"If you make me your heir, I would be an adopted son," said Febris, patiently. "That would make me a Beorhus; people are conditioned to respect and obey the Beorhi."

"I would sooner adopt an ape."

"Perhaps so, but you have no other choice in the matter. Either you'll make me your heir, or I'll do nothing you ask."

"I'll have you executed." Rhys tried to reach the alarm bell, but he could not move his hand.

"You can't. Give me the seal—your seal, made of gold. Not the siver duplicates that you pass out to Acair and others."

Rhys seemed to sink deeper into his pillow. His glazed eyes both shifted toward a desk on the far side of the room. "It is in that desk," he whispered. "The key is around my neck. God help me, there is no other way."

Febris reached down and felt a thin gold chain hanging around Rhys' neck. He unfastened the key and strode across the room. He unlocked the desk, found several drawers inside.

"The second drawer on the right," said Rhys.

Febris opened the drawer and drew forth the gold seal, the insignia of the ruler of the earth. He slipped it into his pocket, and started to turn away from the desk; then his eyes fell on a slender letter-opener lying in a pigeon hole. He reached out and grasped it.

"It seems to me, Rhys Beorhus, that there's no more need for you to stay alive."

Rhys tried to scream, but his voice was hardly as loud as the chuckle that Febris gave in reply. The Adviser went to the bed without bowing, lifted the letter-opener, and brought it down on the paper-thin skull of the dying man.

Febris held it there a moment. He watched the veins underneath the skin, till they ceased throbbing, then he withdrew the sharp instrument. Carefully he wiped away the pale green blood with his handkerchief and cleaned off the letter-opener.

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He found some black sealing wax, and filled the hole in the skull. It looked like another splotch of the deadly disease.

"No one will ask questions," he said. "It will be accepted as a fact that Rhys XXVII died of a virus."

III

THE ELEVATOR containing Gerd Thane and the guard shot downward toward the castle dungeons. The guard seemed not to pay little attention; after all, the prisoner was in handcuffs and the guard was experienced in handling prisoners.

None of them had ever shown so much as a desire to resist. This one, of course, had eyes a little brighter, and he carried himself a little straighter than most, but they were all alike. What was the point of resisting arrest, anyway? A man couldn't go far without being asked to show an identity card, and anyone supposedly under arrest would land right back in the pokey before nightfall. And the penalties for escaping were something to make a man think twice before he tried it.

Acair had not warned the guard that Thane might take desperate measures. He felt secure in his own regulations, that prevented anyone from entering or leaving the Palace without rigid checks.

And, of course, Acair had no way of knowing the elevator would stop before it reached the dungeon level.

The guard roused himself from his semi-stupor as the door opened. In it stood a young woman, black-haired, about nineteen or twenty, and with charms that Thane remembered only from the photographs in the rare books he had bought. Her eyes, furthermore, held none of the dullness that marked so many of the females he saw so often on the streets.

"You can't get on," the guard told her. "This elevator is being used for police business."

"Why not? Your prisoner is wearing handcuffs, isn't he?"

"Regulations forbid it."

"Hang the regulations," said the girl. "I'm not going to wait for another elevator." She stepped aboard.

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THE GUARD'S jaw dropped almost to a forty-five degree angle. He had to think for a second or two before he knew what to say. "Disregarding regulations is a criminal offense," he reminded her. "I shall have to arrest you, if you don't get off the elevator immediately."

"All right; arrest me."

The guard frowned. There was a complication here. "I can't; I have only one set of handcuffs."

"Take them off the prisoner and put them on me," said the girl. "Heavens to Beorhus, must I tell an officer what to do? I think I'd better report you to Acair."

The guard almost trembled. "No! Please don't do that, miss!... You see, ma'am, if I remove the handcuffs from my prisoner, he might escape."

"Close the elevator door," she said. "Your prisoner can't get out if the door's closed—not unless someone gets on, as I did; and there's really no reason for anyone boarding a down car at this floor—the conveyor level."

"You got on."

"I'm a social worker," she said. "I came to relieve suffering in the jail."

THE GUARD had never heard of such a thing, but it might be something new some official had introduced. The young woman seemed to make sense. He could close the door, arrest her, then start the elevator and deliver both prisoners at the same time. He wished he'd done more thinking in his life. He wasn't used to it. But it all seemed sound.

He unlocked Thane's handcuffs, and Gerd Thane swung both hands upward even before the cuffs were removed from his wrists. The blow caught the guard on the jaw, sent him reeling. His head hit the metal wall of the car and Thane struck again. That was all.

The girl smiled at Thane. "Let's go," she said. "We'll take another elevator upstairs." She opened the door as Thane removed the handcuffs.

She seemed to know what she was doing; he followed her to another elevator and stepped in it. She touched a button and sent it upward.

"I'm not sure I understand

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why you're doing this," said Thane.

"The most important thing to understand is that you're better off than you were a few moments ago," she replied. "En route to a dungeon for treason, isn't the best position there is."

"I'll agree to that. But who are you and why did you do this?"

"My name is Charis Ryna. And the reason I'm doing it is because my boss told me to."

"Who is your boss?"

"The Adviser."

"Febris?"

"Yes, but don't let it throw you. I found you only because it was to everyone's advantage that you didn't get locked up in a dungeon. Right now, you're the most important man I know of."

"THAT SEEMED to be Acair's idea too," mused Thane. "I wonder if Febris has the same reason for thinking so."

"Yes, and so have other people. Acair isn't the only man on the Earth with a police system. Febris has been spying on Acair for years and knows every move he makes. He knew that Acair pulled you off the job in the factory and brought you here. I expected to have the pleasant opportunity of rescuing you from Acair, but all I got was a chance to outsmart a dim-witted palace guard. It was really too easy—it took practically no talent at all."

Thane, who had felt so elated at his escape a short time before, now sighed. He had to go through the whole business again. "Really, Miss Ryna—or is it Mrs. . ."

"Miss," she said; "and let's not get strung out in some kind of an argument. Acair would have you in custody for only one reason—that you refused to do what he wanted to. It stands to reason that if you wouldn't do what Acair asks, Febris will have a difficult time persuading you to do what *he* wants you to do. Febris probably would wind up last in any popularity contest you can mention. Our problem is to keep you out of a dungeon—and you're bound to go there by shouting your princi-

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ples in the face of the most powerful men on Earth."

Thane was mystified. "You mean I shouldn't tell the truth?"

"Don't lie unless you have to," said Charis Ryna. "Honesty is rare these days in people who can think. But there's a lot more at stake than truthfulness, and Febris and Acair aren't sparing perjury to gain their ends."

"I dislike treachery in others; I don't want to practice it myself."

"Admirable," said the girl; "but impractical. You're valuable, Gerd Thane. Maybe you don't know it, but I do; I've had my eyes on you for a long time."

THERE WAS truth in what she said. Since her earliest childhood she had been taught to admire the characteristics exhibited by this young man. The Beorhi had arranged this—why, she had not known till recently, but the ways of the Beorhi were strange.

"It seems as if everyone's had his eyes on me," said Thane.

"These are critical times. The Beorhi are nearly extinct. The only living one may soon contact the disease, and then we'll have intrigue up to our ears. Every little pipsqueak that can have an independent thought—and many who can only half-think—will consider himself a candidate for the Gold Seal of authority the minute that Rhys dies. But only Febris and Acair are clever enough to be feared. And both of them have the morals of a tapeworm, that's why I've picked you, Gerd, to be the next ruler of Planet Earth."

"Me?"

"Yes, you." The elevator stopped, but before she opened the door, Thane caught her arm and pulled her around to face him. Her beauty left him breathless. "Who are you really working for?"

She smiled and pulled away from his grip. "For you, you big ox; and since we're going to be through a lot of things, if we last long enough, stop calling me Miss Ryna and call me Charis."

"All right, if you'll call me Gerd."

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She reached up and patted his cheek. "That's just fine, Gerd. Now let's go see my boss-in-name-only."

IV

FEBRIS did not announce the death of Rhys XXVII. He had much more important things to do; besides, he felt it would be much better if someone else made the discovery. Just in case an inquisitive mind—of which there were still a few on Earth these days—might find that a black spot on the dead emperor's skull was sealing wax and not the product of deadly disease.

He used Rhys' own private elevator to descend to the secret room. The papers under Rhys' pillow had contained full instructions on how to get to the room, but he was not prepared for what he found there.

The room was large, possibly a hundred feet long and fifty feet wide, and one entire side was taken up with the largest electronic machine he had ever seen.

Febris had known that The Instrument was electronic. By deduction, and by unguarded remarks, he had learned that somehow a huge electronic brain had managed to keep earthlings in subjugation for six hundred years. He had not the vaguest idea how it was done; but he did know that Rhys made regular visits to this secret room—and immediately thereafter, certain new laws appeared and old ones were abrogated.

He knew, too, that before any couple could be married, applications had to be made through the Beorhi. Right now, stacks of punched cards lay in baskets which were being fed mechanically through one unit of the machine. Electronics would decide what couples could marry to develop a race incapable of independent thought—but even electronics was not infallible in predicting the results of mating. Most unions turned out satisfactory to the Beorhi, but Mendelian upsets sometimes took unusual turns. The result was throwbacks, such as Febris himself.

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Parsimoniously, the Beorhi had found uses for these throwbacks; they knew that most of them would see the advantages of bending to the will of the masters, if they were granted certain privileges. Whenever a throwback was discovered, he was presented with a choice—death or service against his kind. Once in a while, a throwback was overlooked. Gerd Thane was not the first—he was only the first to be of any importance. And Febris wanted him.

FROM HIS pocket, Febris pulled the written instructions. He went to a keyboard and slowly and carefully typed out the rows of figures on the paper. Lights blinked and the machine whirred; presently an automatic typewriter began clicking. Out came a sheet covered with figures.

Febris looked at them blankly. What did they mean? he knew nothing of mathematics, and the answer meant nothing to him. Yet, somewhere among those rows of symbols was the answer to everything he wanted to know: how to rule Earth until the Beorhi came.

While the information was valuable, it was not what Febris really wanted to know. He believed that the machine, like all machines, did what it's operator geared it to do. He was not interested in turning Earth over to the Beorhi again; he had The Instrument in his hands, and by merely moving his fingers in a certain way across the keyboard, he would know what steps to take. But he did not know how to move his fingers.

Febris frowned, shoved the sheet of paper into the pocket of his tunic, then boarded the elevator. Before it reached Rhys' private chambers, he got off, and went to his own office.

Special Agent Ryna and Gerd Thane were there waiting.

V

THE GREAT fleet of monstrous space ships went through the complicated maneuver that jerked it out of hyperspace at the rim of the solar system.

Admiral Vacana of the Beo-

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rhi summoned Vitti Rhys, the courier who had brought the message to the home universe. "There are nine planets," he said. "Which is ours?"

"The third, sir, but it is scarcely visible from here, since it lies so near the sun."

"Is it within communication range?"

"Not with the power we have. However, cosmic ray oscillation can be brought in very faintly."

The admiral phoned to the communications center. He waited patiently for an hour, then he called again.

"Sorry, sir," said the operator. "I've signaled repeatedly, but get no reply."

"Cosmic ray signals are very difficult to deal with," said the admiral. "We'll try at closer range."

VI

CHARIS RYNA and Gerd Thane had come directly to Febris' office. Here in a soundproofed room, which Febris was permitted to use for his private business of Palace Adviser, they had made plans.

It was all well and good for Thane to stand by his principles and refuse to put an instrument of power into the hands of men like Acair and Febris, said Charis. However, deception woud be better than an open stand of incorruptibility. Neither Febris nor Acair would hesitate to apply torture.

"If you're going to help anyone, you've got to stay alive and healthy," she said.

Charis knew only a little more about The Instrument than Thane himself. Even Febris and Acair only guessed how the Beorhi used it to control the earth. It was electronic; that much she knew. "I've heard that it has the powers of prophecy," she said, "but I greatly doubt if a machine could ever be built that would correctly foretell the future."

THE BEORHI had guarded The Instrument from all earthmen. Only a member of the master race could operate it, and it was hidden in a secret room of the palace. If Thane were permitted to work on The Instrument, he must

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stall sufficiently to prevent Febris from learning its secret—and, instead, learn how to manipulate it to protect earthlings from their enemies.

Thane accepted only the suggestions from Charis with reservations. He agreed that he must use deception. While he found Charis charming, and admitted to himself that he had never seen a woman so full of beauty, and so delightful to talk to, he noticed that she had said nothing about her own motives.

She admitted she had been ordered to rescue Thane from Acair, but at the same time she had told him that this was not the sole reason for the risks she had taken. And her hints at a plan which included outwitting Febris himself, suggested personal motives. Was she another copy from the ambitious mold which had cast Febris and Acair? Did Charis Ryna wish to rule the Earth? Was she working for a third megalomaniac?

Thane wondered if there were anyone on this planet he could trust.

But even as he asked himself this question, he knew that he was falling in love with Charis Ryna. No matter how overpowering the weapon of the Beorhi was to earthlings in general, he saw that Charis was a far greater threat to Gerd Thane. Before he knew it, Thane held her in his arms.

ALL THIS was interrupted as Febris stepped into the office and saw Thane embracing the girl.

"What in the devil? Is this the only way you could get him here?"

Febris was not angry. The despair he had felt, because he had not been able to operate The Instrument, had vanished at the sight of the man he knew to be a wizard at electronics.

Thane and the girl parted suddenly. "It was my own idea, sir," he said. "However, I make no apologies; I love her. Had I known before that you had such a beautiful assistant, it would have been unnecessary to send her to fetch me. I should have come here of my own accord."

Febris chuckled, and turned

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to Charis, who blushingly adjusted her slightly ruffled hair. "He hasn't aligned himself with Acair?"

"No, sir," said Charis. "Acair, you know, was quite niggardly and thought he could bluff Thane into doing without reward what he had in mind. When Thane stood up for his rights, Acair ordered him to the dungeons. Fortunately I stepped in at the right time, and the guard will have some explanations to make when he recovers from what happened to him."

Febris laughed loudly; he was in good humor now. "Sit down, Gerd Thane. I'm sorry, Charis, but I must talk to this young man alone. Later, you two will be together again." He turned and gave Thane a sly wink.

"I understand," said Charis. She walked to the door, she turned and gave Thane a smile as she went out. Thane hoped that she was not a third contestant for world power; if she was, he was a prisoner with less hope of escape than if he had been placed in Acair's deepest dungeon.

FEBRIS took a chair beside Thane and related his experience with the electronic brain. As he talked, the mystery of The Instrument seemed to clear slightly for Thane.

"The principle behind such electronic machines," he said, "is that nearly anything can be translated into mathematical values. If The Beorhi found a way to evaluate human strength and weakness, and feed the figures and symbols into the machine, it would be a simple matter for them to reach an almost infallible method for conquest of mankind."

"But wouldn't it require a great deal of study and research?"

"It would, Febris, but this study itself could be done partly with The Instrument, which can calculate in a few seconds what hundreds of men might require centuries to do. Furthermore, you must remember that when the Beorhi arrived on Earth, they were received as friends. Earthmen shared their knowledge, never suspecting what these beings planned. If that sounds incredible, you

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have to remember that they took their time—and The Instrument showed them how to move without arousing suspicion, even as they were gathering the information they needed.

Febris cleared his throat. "They had their reasons, of course."

"Could a man have done the same thing?" Febris asked after a pause.

"An ape could have done it, if he had the ability to follow the strategy outlined by The Instrument."

FEBRIS pondered a moment; he sensed that this young man must be handled carefully. "If Rhys dies, which is quite likely that he will, a human being must become his successor. Man has retrogressed considerably in six hundred years, and it would require a great deal of planning to put our race back on the level of pre-conquest times. Could The Instrument be used for this?"

"Indeed it could, sir," said Thane. "What was done by The Instrument can be undone by the same agency."

"Ah! And an electronic wizard, such as you, might learn how to operate this marvelous invention, eh?"

"Perhaps I could sir," said Thane, struggling to hide his feelings. The very words of Febris, no matter how phrased, carried overtones of ambition.

"Then do it," said Febris. "I will lead you to the Instrument."

"Sir," said Thane, "I am only human. Don't you suppose that the Beorhi have safeguarded this electronic brain, so that their slaves can't use it?"

Febris stood up. "I have news for you, young man," he said. "The race of Beorhi no longer is a threat to humanity. All of them, save one, have died of a plague that does not affect men but which is fatal to these men from space. The one survivor, Rhys, himself, contracted the disease. On his deathbed, less than two hours ago, he made me his heir; he adopted me as a son—making me a member of the Beorhi race in every respect possible—by decree. Of course," and he smiled, "he could not alter my physical construction. But I

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have been with the Beorhi so long that I think as they do, I know their manner of life. I am one of them."

From his pocket Febris produced the Gold Seal.

THANE SPRANG to his feet, so conditioned was he to the royal insignia. He executed a triple bow from sheer force of habit. It is hard for a man to rid himself of a lifelong custom, even when he knows it is wrong.

"Then you will inherit the earth, your excellency?" Thane asked.

"Indeed I will," said Febris. "Poor Rhys, however, is too weak to confide the secrets of The Instrument to me. Perhaps he senses that, although royal decree has made me a Beorhi, I am still human inside—and that with his death, mankind will end six hundred years of subjection. However, the change must be gradual so that our brethren can assimilate it."

The hypocrite! thought Thane. "And you want me to fathom the secrets of The Instrument for this guidance?"

"That is correct. And, I might add, you will be amply rewarded. I am not blind; I know love when I see it. When you disclose the underlying principle of power embedded in The Instrument, you will be wedded to Charis Ryna."

Febris knew a few things about manipulating human weakness—if love was a weakness—Thane decided. But Gerd Thane had made his own resolution before he met Febris. No matter what happened, Thane was resolved on his course of action—so far as Charis was concerned. However, he did his best to appear eager. "That is generous of you, sir," he said.

"And now, since Rhys may die any moment, we should go at once to the secret room. Rhys gave me the instructions for reaching it, and a rather vague description of how to operate the machine. He neglected to tell me how to interpret the results; which is vastly different from mere operation. That is why I need your help."

"I see no hurry before Rhys dies."

"He will be dead very

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soon," said Febris; "possibly he is gone now. We must take over the reins of government immediately, before a man like Acair can bring about a *coup d'etat.*"

Thane nodded slowly. There was no way he could stall longer. "I think you're right. Let's see the electronic brain."

Febris led the way through a maze of palace passages, through secret doors to a forbidden part of the building.

VII

ACAIR EXAMINED the body of the dead Beorhi emperor. He saw that the Beorhus had been afflicted with the plague, and he noted also that Rhys' death was the result of something else. Febris' attempt to hide the wound in the being's skull would have deceived an ordinary earthling, but not a throwback.

However, Acair did not make his discovery public. There was ample time for that, and this knowledge could be a handy lever to use against his rival.

Instead, Acair made a search for the royal seal. He did not know where it was kept, but he suspected that it was gone; and if it was gone, the man who murdered Rhys had it.

He found something else, which was just as important. It was a book which contained a diagram of the Palace, a page for each level. It showed secret passages and the way to a chamber that was the most secret of anything owned by the Beorhi—the room of The Instrument. Apparently, Febris had not known about this; and if Acair got there first, Febris could have the seal.

"I want three dimensional, color photographs of the body," Acair told one of his men. "Then deliver the corpse to the sepulchre."

The man nodded and Acair left. He went at once to Febris' office. The girl Charis Ryna was there, but Febris was gone. She did not know where her superior was.

"It seems to me, young lady, that you owe me some answers," Acair said.

Charis smiled sweetly. "Answers? I have very few items

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that could possibly add to your vast store of knowledge."

"About three hours ago," said Acair, "I sent a prisoner to the dungeons in company with one of my men. This man, a loyal soldier, was later found in an elevator suffering from a beating. He managed to give a description of a girl who had helped his prisoner escape. The description fits you perfectly, my dear."

CHARIS smiled. "Perhaps you'd better talk to Mr. Febris about it. I don't know the answer to this, and he will tell you about my movements in the past few hours."

"I can't wait to talk to him," said Acair. "You come with me; you're under arrest."

"You're forgetting that I have immunity as a member of the Adviser's staff. If you want to arrest me, talk to my boss."

"Febris has very little power now. Rhys is dead."

"Dead?" The girl stiffened. If this was true, the war between Acair and Febris had begun.

"Yes, dead," said Acair. "Come with me!"

He reached down and seized her wrist—then his eyes fell on the desk blotter in front of her. On it she had scribbled with a pencil: "*Gerd Thane.*"

Acair took a second look; his mouth broke into a smile. "I think that is evidence of your complicity in Thane's escape. As well as the fact that you think a great deal of him."

Charis closed her lips tightly.

"You need not answer that question; I know the answer. I also know that it would take a stronger man than Gerd Thane to resist your charms."

"Gerd Thane will have nothing to do with your conspiracy, nor that of Febris," she said. "Why don't you leave him alone?"

"Because he knows something. He is an important man because of his knowledge; and you, my dear, will be the key to unlock that knowledge."

VIII

THE BEORHI fleet was well within the orbit of Pluto when it received the first message from

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the earth. It was a long message, repeated over and over and it came by gamma frequency instead of radio, or cosmic ray.

The words were phrased in the old Beorhi tongue, quite different from the modern language spoken on the home planet today; but Admiral Vacana was well versed in the classics and read it quite easily:

..Deadly disease has annihilated the race of Beorhi on the third planet of the solar system. Our affairs have been placed in order to formula 495-238B, with constants Y and Z placed in the ninth position and constant Q multiplied to the power of minus seven..

Our affairs are being administered by The Instrument under the regency of an earthling named Febris, whose value is 6.7342 multiplied by pi, which is a dangerous evaluation but which offers the best possibilities for success under the formula..

Febris, as his evaluation will show, is unscrupulous and will undoubtedly attempt to further his own ends. His first step, according to our mathematics, will be to appropriate The Instrument and use it to rule the Earth. He knows nothing of electronics, or of mathematics, or of our method of evaluating intelligent beings. He must enlist an ally. For this purpose, we have carefully schooled a throwback called Gerd Thane, formula 376-772Y, pretending to overlook his qualifications as a thinking creature.

Thane, as his formula will show, is far more dangerous in many ways than the relatively slow-thinking Febris. Furthermore, he is motivated by a variable constant which make his actions difficult to predict. Ordinarily we

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would have liquidated this type upon discovery, but several have been placed in stock for emergencies. To guard against unpredictable developments we have also stocked a counterbalance, 376-771-Z, a female of almost identical type, which as you know could be manipulated so that she could become his vulnerable point. She is known as Charis Ryna.

If Febris is successful, which is unlikely, in using Thane to convert The Instrument to his purpose you have nothing to fear. Under the formula he will rule men with such tyranny that by the time you reach Earth, he will be hated universally, and the Beorhi will be welcomed as deliverers. You will lead a revolt and put a new formula into operation.

If, on the other hand, Febris is unsuccessful, you will face either Gerd Thane or a man named Acair, formula 9.5643 multiplied by pi. Acair is as unprincipled as Febris and much more cunning. However, he can be approached and governed by guarantees, and rather than to lead a hopeless cause he will turn over Earth to you.

If Thane is winner of the final struggle for supremacy, the variable constant will come into play and you may find it necessary to determine the exact value of this constant before making your move. Approach Earth with extreme caution; do not land unless you have sufficient mathematical odds to justify safety and be prepared to fight.

We believe we have placed enough counterchecks in opposition to Thane to prevent his access to power. We know that Febris and Acair will use Cha-

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ris Ryna to check his moves. We urge Thane's destruction immediately, through whatever agency you may have, since his type is extremely dangerous.

That is all.

Repeat message... Deadly disease has annihilated the race...

ADMIRAL VACANA read the message through twice and then looked up at old Vitti, the messenger who had summoned the Beorhi to Earth a second time.

"Tell me about the earthlings," he said. "Are they great fighters?"

Vitti laughed depreciatingly. "They are not. Dull and uninteresting beings, almost all of them. They have lost the ability to think past the next meal; a few determined Beorhi could exterminate them."

"The formulae for Gerd Thane and Acair do not indicate this."

"You saw the specimens I brought back from Earth, Admiral. Do you think we have much to fear from them."

"No," said the Admiral with a grim smile, "not if they are typical. However, Vitti, our greatest scientists gave them examinations much more complete than the Beorhi on Earth could have given them. There has been progress in this direction since the first pilgrims made their trip. We found that, as you say, these beings were dull, almost incapable of independent thought. But in spite of this apparent stupidity, there is a second brain, a subconscious mind that has a great deal to do with their actions. Even though this second brain seldom protrudes upon conscious thought, it may harbor a character that is quite different."

"You think they may inexplicably react in some unforeseen manner?"

"INDEED, it is quite possible," said the Admiral. "There may be an instinctive reaction that cannot be planned against by our machines. This variable may be the one that the message refers to; and it may be more apparent in this Gerd Thane than others of his

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kind. His entire existence may hinge on a certain sub-conscious desire that we do not understand."—

"You are making too much out of something that may cause us no trouble," said Vitti. "If this second brain is asleep, it is unlikely to awaken or cause us trouble."

The Admiral nodded. "You are probably quite right. Too bad about our brethren. Do you think the disease might infect us?"

"Apparently the Beorhi do not think so, or they would not have urged us to land. However, we can determine the chances with our electronic brain. I think the factors can be determined from the message."

"Let us hope so. I, for one, am much more worried about this man Thane than a virus called X."

IX

AT HIS FIRST sight of The Instrument, Gerd Thane knew that he would not have to resort to trickery, nor would he have to stall to prevent Febris from learning how to use it. He could not use it himself.

For some minutes he stared at the flickering lights, listened to the hum of the motors. The electronic brain seemed alive with activity. At one end, a small conveyor belt fed cards into a unit. He looked at them, found out that these were matching human beings for marriage. The Instrument had bred mankind into stupid animals.

Thane laughed silently. Why was he calling other men stupid? Alongside the minds that had created such a machine, he himself was an ignoramus.

Thane understood electronics; that was his trade. He knew enough elementary mathematics to grasp the principles by which The Instrument had made the Beorhi masters of the Earth; but he did not understand enough higher mathematics to use it.

"Good God," said Thane to Febris. "I can't run this thing; it's beyond my powers."

The fat man was jarred out of his complacent assumption that he would be heir to the

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Beorhi. "You lie!" he said. "Records show that you can!"

"I don't lie; the records do." He remembered that Charis had told him of examining certain records which showed Thane's character.

"You have the potentiality," said Febris. "All through your life you have been periodically examined by agents of the Beorhi. They know exactly what kind of man you are. They know your capabilities and your limitations. All of your classifications have been put on cards, just like the cards that assign couples for mating. By devious means, I obtained a listing of certain throwbacks like you. I learned that you were an electronics expert, that could operate The Instrument."

"THERE IS more to this machine than the electronics by which it operates," said Thane. "Sure, I can run this thing; so can you. You did it, with a set of instructions. Anyone, save a few of the dull-witted slaves that do not even know they are alive, could do it."

"But I cannot *use* The Instrument. There is a vast difference between mere operation and intelligent use; in order to use this electronic brain, I must know higher mathematics. I must know how to appraise values that I cannot even understand, in order to learn weaknesses of the human race. And I must translate my questions into mathematical terms to feed into the transistors and electrical circuits."

"You could learn to do it."

Thane sighed. He had been wondering about that. Yes, he might learn—if he knew the mathematical values of greed, double-dealing, honesty, integrity and a host of other things. But would man be better off if he were described by symbols and appraised by electrons? Someone had said that man is a piece of the universe made alive. But life connotes a freedom of action and a choice of some sort. Figures destroyed life or made it rigid, deterministic.

On the other hand, perhaps human characteristics were variable. Different external factors might change the value

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of the abstractions of the soul. Greed multiplied by one constant might be vicious—and by another might be admirable. It was all very well to assume that X equals greed and Y equals altruistic honesty; but if these were multiplied by a motive named Z, would the final result be good, or damnable?

No doubt the Beorhi knew how to perform these mathematical miracles, but Thane could not. No man since the Twenty-third Century had known higher mathematics. The subject was reserved for the Beorhi alone.

"I KNOW THAT you have bought forbidden books, Gerd Thane," Febris was saying. "Perhaps one of them contains these higher mathematics you speak of."

"Some of them do," said Thane, "but I don't understand them. Certainly, I can't grasp it well enough to give the human equation."

Febris pulled an envelope from his pocket. "Here are the instructions Rhys gave me," he said. "They tell how the machine is run."

Thane studied the sheet for a moment. The instructions were clear; they told which keyboard to use. But there were several. Why this particular one?

Thane went to the keyboard. He looked at it closely.

"And this is the answer that came from the machine," said Febris, thrusting the second sheet in front of Thane.

Thane looked at it and laughed. The figures were the same that Febris had copied from the original. "Look," he said. He pointed to the electric typewriter. It was running, repeating the meaningless figures over and over again.

Thane was puzzled at first, but now he noted certain familiar features of the unit connected with the typewriter. He went to a control panel and twisted a dial.

A hidden speaker spluttered and took on life. Presently a sing-song voice began speaking in ancient Beorhi.

The language of the conquerors had been corrupted by terrestrial tongues in the six centuries since the Beorhi invasion. The change that took

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place was comparable to the corruption of Anglo-Saxon by the Norman Conquerors of Britain after 1066. The Beorhi had used original words of their own tongue to describe what they used, while the earthlings still used their terms for the raw materials. On the other hand, many of the Beorhi had picked up phrases of the vulgar language and the final blend was roughly analogous to the blend of English of the Elizabethan era—partly Anglo-Saxon, partly Norman French, but different from both, just a stone's throw from twentieth century English.

Classical Beorhi was still taught to a few earthlings who had daily contact with the Master Race. Among them was Febris. Thane, too, had learned the tongue and he also understood the words that came from the speaker.

IT WAS A message, being sent into space from the Palace to a fleet of Beorhi ships bound for the earth. Thane and Febris heard their names mentioned and realized that everything that had happened to them was part of a plot—a cleverly-designed scheme with earthlings moving like puppets on strings into a position that would throw the world back again into Beorhi hands.

Febris clenched his fists. His face paled. He swore under his breath. "They can't do this to me! They can't take what is mine!"

"The earth never was yours, or any man's."

But Gerd Thane knew that while the general plan had worked out as described in the message, there were certain things that had been overlooked. Rhys had expected to die, but Febris was spoken of as a regent, not heir. Something was amiss at this point, unless Rhys had lied to Febris. It was hardly likely; the Beorhi did not have to lie to gain their ends. They had mathematics on their side, and mathematics must tell the truth.

The surrender of the seal was a greater concession to Febris than Rhys had anticipated. Could this throw the entire equation out of balance? Or was the value of the seal so near zero that it would not change the result?

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There was another variable, too; the Beorhi had not anticipated Acair's move to reach Thane first. The master race had expected a struggle between Thane and Acair, only in the event of Febris' overthrow. But the struggle had developed ahead of time.

NEVERTHELESS, the Beorhi were right, in general. The differences in their plan from what had actually happened, only disclosed that there were too many variables for even master mathematicians to foresee. The final equation had three answers: Febris, Acair and Thane were equally able to become dominant.

And what of Charis Ryna's position in the problem? Undoubtedly she introduced factors that would be hard to evaluate for a final solution. She might be Thane's weakness, his vulnerable point; yet, he knew that she might also be strength. Her mathematical constant was close to Thane's, therefore her motives must be nearly akin. If so Thane's value could double with her help. And if the Beorhi themselves recognized Thane as the most dangerous enemy. . . ."

He broke off, and not because the message was repeating itself again. The secret door to the room had reopened. Standing in the doorway was Acair.

"Febris, my dear friend," he said sarcastically, "your ability to win friends and influence important people is improving. You, the most unpopular man on earth—not even excepting myself—have gained the friendship of this sterling, incorruptible young man! Only a few hours ago, he swore that he would rather die than betray his planet. Can it be that your motives are also pure?"

Febris spluttered with rage; he took no heed of what Acair was saying. "Get out of here, you scoundrel. We are two to your one; and by the authority of the Gold Seal of the Beorhi, which I wear around my neck, I can have you torn apart and your pieces thrown to the palace dogs."

ACAIR SEEMED not in the least afraid. He threw back his head and laughed.

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"You talk big, Febris," he said. "And lest there be more in your words than a loud unpleasant sound, let me warn you that the Gold Seal means nothing to me. I am not conditioned to click my heels and bow three times when I see it. Furthermore, I have a very helpful device—an invention of the earthlings of old, known as the Equalizer."

The police chief drew from a holster at his side, a very large automatic pistol.

Febris trembled and shrank from its staring muzzle. "Don't be hasty, Acair. Remember, I can be a great deal of value to you, just as you can help me. We should be friends, and not enemies in the event that Rhys dies."

Acair was still grinning. "He's already dead, Febris, as you well know," he said. "Although he had the fatal disease, it's my opinion—backed with photographic proof—that he was murdered. The Gold Seal won't protect you, if I wish to let it be known that you got it by assassination."

"But you won't, will you, Acair?"

"Not immediately, Febris. You see, I need you, just as you said a moment ago. Not as much as you need me, but if you've won over this young man, I'd say you were in a splendid position to bargain. Shall we join forces? My silence on the assassination, for your willingness to make me partner?"

"Listen to that speaker on the wall, Acair." It was Thane who spoke now, turning up the volume so that Acair would have no difficulty understanding the words in the strange Beorhi tongue.

Acair listened. His smile faded and his face grew black with anger. He understood the ancient sing-song words and his eyes shifted from the speaker to Thane and Febris as he began to understand that, clever as he believed himself to be, he had been only a plaything of the master race.

WHEN THE message ended, Thane turned off the speaker and spoke to the police chief. "I know your motives, Acair, and I know what Febris plans. But if one fact is clear, it's no time for us to

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fight. More important than the fact that both of you are rogues, is the fate of the human race. We can do nothing against a new invasion of the Beorhi if we fight each other. If we join against them, we can do much. They expect us to fight each other; we can upset their carefully prepared plan by joining forces. Are you willing?"

Febris whined: "I have the seal. Before he died, Rhys made me heir."

"Shut up or you'll be a dead heir," said Acair. He looked at Thane. "You, I could trust, but I don't trust the revolving so-and-so; he'd murder us just for the privilege of wearing that gold thing around his neck. He murdered Rhys, you know."

"Rhys died of the plague," said Febris, insistently. "You're just trying to turn Thane against me."

"The plague of a sharp instrument through the skull," said Acair. "And you're not smart enough to get away with it. Even Thane here had gotten around you."

"What do you mean by that?"

"I mean, old friend, that you've been took, as the old saying goes. I don't know how the lad got smart, but I expect that Charis Ryna had something to do with it. But it's a cinch that if he's able to master The Instrument, he'll do it for himself and not for you."

FEBRIS turned on Thane. "Is this true?"

"You promised that Charis and I..."

"Ah!" said Acair. "And if I told you that I have this young woman under arrest, would you desert Febris?"

Thane felt as if he'd been struck with a fist. "You're bluffing!"

"I'm not bluffing. But no harm will come to her—yet. It seems that the Beorhi think you are important, too, young man. You've got a certain—ah—variable constant in your soul that can make things troublesome for them. I think we'd better keep you around. And I believe that Febris, for all his dull wit, is smart enough to see that he can gain nothing by trying to oppose me now. Later, he may try to murder

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me, but I'll be on guard against that. Right now, Thane, you'd better do as we say. If Charis Ryna isn't reason enough, I can think of other reasons. . ."

It was too late now to use cunning; Thane had to act. He charged Acair while the police chief was in the middle of the sentence. Acair had not expected the rush, and he was unprepared for the blow that sent him reeling back against the door frame. He tried to use the gun; but before he could regain his balance, Thane charged in again and seized the wrist, twisting it sharply till Acair screamed with pain and dropped the weapon.

THEN THANE buried his fist deep in the small man's shrunken belly. Acair doubled like a broken stick. As he stood in this position, gasping for breath, Gerd Thane brought the side of his palm down sharply on the back of Acair's neck, near the base of the skull. The hatchet-man of the Beorhi collapsed.

Through the brief battle, Febris had stood half stunned; but when Acair's gun fell to the floor, he shook himself out of his frightened state long enough to make a dive for it. Thane turned just in time and kicked the weapon out of reach. He jumped aside as the fat man reached out for his legs, in an attempt to trip him.

But before Thane could rush Febris, the Adviser was on his feet, moving backward to a place where a fire axe hung on the wall in a glass case. Febris smashed the glass with his fist. Disregarding the cuts on his hand, he reached in and grasped the axe.

Thane halted, picked up a chair and caught the blow as it fell. Then he moved in closer, knocking the arm that held the axe to one side and planting a heavy punch on the side of the fat man's jaw. Febris staggered. Tried to lift the axe, but Thane hit him again.

Febris stumbled to his knees. His head was spinning, and he could not lift the axe. "Don't!" he pleaded. "Don't kill me! You can have anything you ask!"

Thane struck again and Febris toppled backwards. Thane

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used another judo punch, and Febris lay still. There was less likelihood of his being dead than there was for Acair. Febris was better padded.

Thane leaned over, tore the gold seal from the neck of the Adviser, and slipped it over his own head. He looked down at the object that once would have made him click his heels and bow like a monkey. It was just a worthless badge to him now. No, not worthless; other men would still bow and click their heels, and he needed this kind of thing to meet the threat from space.

Then Thane went through the door to the elevator. He had to find Charis.

X

FEBRIS was groaning feebly when Acair finally drifted back to consciousness. It took Acair a moment or two to collect his thoughts; then he rose on one knee and looked at the bloodied face of the Adviser, a few feet away.

The Gold Seal was gone; Thane probably had it. But Acair had yet to be awed by the badge of the Beorhi. What was more important at the moment was the fire axe on the floor beside Febris.

Acair stood, swayed a little, then staggered to the axe. He picked it up. Febris stopped groaning, opened his eyes and looked at the upraised axe.

"No!" he screamed.

He never spoke again.

"They don't call me the hatchet-man of the Beorhi for nothing," Acair muttered.

He cast his eyes down toward some papers on the floor. He picked them up, saw they were instructions for operating The Instrument, and tucked them away in the pocket of his black tunic. *Gerd Thane alone stands between me and my empire,* he thought. *And I'll beat him even if I must enlist the aid of the Beorhi who are flying here!*

He went through the door to the elevators.

XI

THANE HAD never been in the Palace before this day, but he guessed correctly that Rhys

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would have his living quarters on the top floor, and that privacy would be assured there.

He got out of the elevator, went through a gold-studded doorway, into the rooms of the ruler, and was startled by the luxurious fittings, tapestries, silver trimmings, beautiful paintings and deep soft rugs. There were soft chairs and floor cushions. A gorgeous place. He turned quickly and locked the door, lest Febris or Acair should follow him from below.

Exploring the other rooms, he found a hot meal on a heated stand. Probably the kitchen staff had not been informed that Rhys was dead and had prepared food for him. Thane went to a window and looked out. It was night. He'd been in the castle a long time and was hungry. He helped himself; and after he replaced lids on the various dishes, the heated stand sank through the floor to the scullery.

He went on exploring. He found the study with its wall of life-sized television screens, showing activities all over the earth. The scenes were unchanged since Thane first saw them in Acair's office. It must have been many hours—five or six at least—since he first came to the Palace. And now he wore the badge that made him Master of the Earth.

Rows of buttons on a panel would help him find Charis. He touched one. He saw the diamond mines of South Africa in place of the spaceport; another button changed the scene to the Queen Maud observatory in Antarctica. He went on pressing buttons, till at last he turned up a man wearing the red and blue uniform of a palace guard.

He touched a red button at the base of the panel. The sound of the man humming softly to himself came to his ears. "Guard!"

INSTANTLY the man snapped to attention and faced the camera. Through the monitor he saw, not Rhys as he expected, but a long haired earthling wearing the Gold Seal. At the sight of the seal his eyes glazed and he clicked his heels and bowed three times. This man was so conditioned that a goat could have

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worn the seal and he would have saluted.

"Yes, sire! What are your wishes?"

"A short time ago a young woman, Charis Ryna, was taken into custody by your chief Acair. Where is she now?"

The man blinked. "I do not know, your highness."

"Could you find out?"

"Sir, I am on duty here. I am guarding the bureau of vital statistics."

"Call your superior and tell him to find out."

"Yes, sir."

Thane waited. His mind swept back to the events of the day. He had tried to alter the carefully-worked-out equation of Beorhi, but Acair and Febris had been too well appraised by The Instrument. Perhaps the Beorhi had known there could be no alliance between alien characters. Two and two are always four—but two dogs and two cats are always two dogs and two cats, never four dogs or four cats.

With Charis, he might be able to change the mathematics of this vital equation. He hoped so. To him she was as important as Earth, but he reasoned that Earth certainly was more important than both of them. Together they would change the equation, become variable factors in a variable world. The outcome of an interstellar war would rest on what difference they made.

Charis had hinted broadly that she had motives other than those shared by Febris and Acair. What were they? Why had she worked against Febris, her superior, whom she was conditioned to obey? He'd never know unless she told him.

PRESENTLY an officer, wearing a silver seal appeared on the screen. He clicked his heels and bowed just as the guard had done when he saw the seal on Thane's chest. "I am at your service, your highness."

"Please give us the details about Charis Ryna, a young woman arrested an hour or two ago by Acair, your chief."

Something in Thane's voice must have alerted the guard. "How is that you speak from Rhys' quarters and wear his seal? You are not a Beorhus."

There was nothing to do but tell the truth. "Rhys is dead."

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"He has appointed you regent?"

"In a manner of speaking, I am his regent."

"I have not been so notified by Acair," said the Guard.

"I am not acquainted with the usual methods of communication," Thane said. "That is why I have asked you to find Miss Ryna. If I knew how to work this blasted communications system, I'd speak directly to Acair."

The officer nodded understandingly. He flipped his seal and looked on the back. "The combination for Acair's office is 266-415-272."

THANE LOOKED at the buttons. It was ridiculously simple. There were nine rows of buttons, ten in each row. He pressed the second button in the first column, the sixth in the third and so on. As he pressed each button the pictures changed, but as he pressed button No. 2 in the ninth column he found himself looking into the familair scene of Acair's office.

Charis was seated there, staring at the wall; at the door was a female officer, wearing a gun.

"This is Our Highness speaking," said Thane, opening the sound switch.

The female officer jumped up and gave the royal salute. "Yes, your highness?" she said reverently. Then she saw Thane's face. Charis, watching, opened her eyes wide, but said nothing.

"To whom are we speaking? Thane asked.

"I am Captain Venghi, formula X32.751, third deputy assistant to your servant Acair, your highness." She paused and continued. "But you are not a Beorhus. Why are you permitted to call yourself king and to wear the Gold Seal."

Rhys gave her the explanation he had given previously, which Captain Venghi seemed to accept. The seal seemed to account for everything, and it was plain to be seen how Febris could have become master simply by wearing it.

"It has come to our attention, Captain," said Thane, after he had explained, "that you are holding Charis Ryna, an assistant to our Adviser, Febris."

"Yes, your excellency, she is here." The captain nodded to Charis.

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"Bring her to us at once."

"But—ah—your highness, we understand she helped a prisoner escape."

"Never mind; bring her here," said Thane.

He switched the scene before Captain Venghi could reply.

THANE PLAYED with the buttons, switching from spot to spot as he waited. Beneath the panel he found a directory, which listed the combinations for each of the thousands of government installations surveyed by the monitor system. Quickly he looked up the combination for Planetary Defense, No. 335-333-444, and made a note of it.

A bell clanged, and Thane gave a start. It seemed to be coming from the next room. He rose, stepped through the doorway into a long hallway fitted with bright lights shining from vermillion walls. At the end was a screen, on which he saw the figures of Charis and her escort. The escort was not Captain Venghi, but Acair himself.

Apparently it was a one-way screen, for Acair gave no hint that he saw Thane. He stood resolutely beside the girl, and he held a pistol in his hand, pointed at the girl's side.

The implication was clear. Thane must open the door and admit both, or Charis would die.

XII

HELPLESSLY, Thane looked around for some means of defending himself. Surely Rhys and the Beorhi Rulers before him had ways of protecting themselves. Didn't they have arms? Thane saw none; nor was there any indication that there were secret devices to protect against assassins.

Perhaps the Beorhi had been so sure of themselves and their mathematical appraisal of human nature, that they relied entirely on their equations to protect them.

Well, if the Beorhi could do it, Thane would try it.

He strode forward, grasped a knob and opened the door.

Acair took the gun from the girl's side. Already Thane was charging toward the man in

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black. The gun swung around, pointed at Thane, but there was no pull of the trigger.

Instead, Acair stared hypnotically at the Gold Seal on Thane's chest. Something held his finger from pressing the trigger. The conditioning, which Acair scorned, was there, although he claimed the seal meant nothing, he could not fire. Febris had not known this when the gun was pointed at him in the subterranean chamber, and his lack of courage had cost him his life. After the seal was taken from Febris' neck, Acair had no compunction against killing him. Thane swung his fist.

Acair went down in a heap and the gun slid out of his hand. A guard standing at attention nearby clicked his heels, bowed three times, then put handcuffs on his former superior.

"Bring him inside," said Thane.

The guard looked dumb. "I cannot enter," he said.

"It's an order," said Thane; "bring him inside and stand guard over him."

The soldier seized Acair roughly and forced him to walk through the door behind Thane and Charis.

THANE LOOKED at the girl with puzzlement in his eyes. She had said nothing since he first saw her. She seemed to be in a trance as she entered the study and did not seat herself till Thane told her to be seated. Acair and the guard remained near the doorway.

At last she spoke. "You have won over Acair and Febris," she said. Her voice had a toneless sound, as if she talked while asleep. "Rhys said it would be thus, I hoped it would not be."

"You wanted me to lose?"

"Yes, your excellency," she said. "But I should not call you that. Although you wear the Seal of State, you are human, like me. And inferior to the Beorhi."

"Charis! What has happened to you?"

"Nothing, Gerd," she said. "But since my earliest childhood, I have been commissioned for a task. The Beorhi worked it out on The Instru-

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ment. I was taught one thing—to kill you and to turn Earth over to the Beorhi pilgrims."

As she spoke, she rose. "I do not want to do it, but I must," she said. She walked slowly toward a tapestry on the wall opposite the television screens. She reached up.

"Charis!" Thane's voice cracked like a whip. He didn't know what she intened doing, but he knew that if it was planned by the Beorhi, it would be dangerous for him.

She hesitated at the sound of his voice. "I must kill you, my lover," she said. "All my life I've waited for this moment. Since I was a child, I was taught that a man like you would someday be at my mercy. I was to strike without pity, for the glory of the master race."

"The Beorhi planned this whole thing!" He knew it was true.

"Yes, Gerd," she said. "The Beorhi knew that Earth history moved in cycles of 600 years. All this had been worked out by The Instrument."

THANE KNEW this from his reading. As far as written records went, there had been cycles averaging 600 years. Not all were exactly the same, but the average of 600 years persisted as the fatal years for any civilization.

The early Egyptian dynasties ended with the invasion of the Shepherd Kings, the Hyksos, sometime between 1750 and 1600 B. C. Troy fell about 600 years later. Between each disaster civilizations rose to power, then were superseded by other types of civilization. Greek glory followed Troy and destroyed the Persian empire, then fell apart after Alexander.

Rome was founded about 800 B.C., but did not become a great nation until after Alexander. It lived from 200 B. C. to 400 A. D. in a position of Grandeur, then fell before the Barbarians.

The Crusades forecast doom for Islam's bid for power after 600 years of growth. The Reformation ended the feudal reign in Europe and marked the beginnings of Western Civilization. Democracy rose from its humble beginnings in 1600 to the coming of the Beorhi in 2189. Now in the year 2803, it was time for the tide to turn

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again. And The Instrument had marked the date in the Beorhi calendar.

Charis was speaking again. "The Beorhi did not foresee the plague," she said, "but they knew something would occur during my lifetime. Something would end their power unless they introduced mathematical factors to change the result. You, Gerd, and I are those factors. We change the result, and we cancel out at the end. Otherwise Earth would again belong to earthlings..."

"C h a r i s!" said Thane. "Earthlings are the rightful owners."

"We must not stop civilization, Gerd," she said. She reached for the tapestry but Thane sprang to where she stood, his black hair flying behind him. He pulled her hand aside, for he sensed that her action would unloose some powerful weapon that might destroy them all.

He hurled her to the floor.

The soldier guarding Acair drew his pistol. "Don't shoot," growled Thane. Charis lay still, as if she had fainted.

THANE STRODE to the control panel and punched out the combination 335-333-444, which he had made note of before. The lower right-hand picture flipped to the plotting room of Interplanetary Defense. Thane pressed the red button, opening the sound. "Attention, please. Hear this."

The corps of men in the plotting room sprang to attention like monkeys, clicking their heels in unison and giving the Royal Salute. Thane was sick of the procedure, but he could not stop the conditioning of the men. It had been instilled since childhood.

He spoke. "Approaching Earth from space is a fleet of hostile ships," he said. "Direct the astronomical detail to plot the course of this fleet and give the range to the space-mark stations."

The officer in charge spoke up "Your excellency! We have already noted the positions from the fleet which now approaches the orbit of Neptune; our missiles could intercept them near the orbit of Uranus."

"Then give the orders to fire!"

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"But, all-knowing majesty, have you forgotten that the space-narks can only be fired by your highness through The Instrument?"

Thane's heart sank. The Beorhi had outwitted him to the last. He couldn't stop the invasion. "Never mind," he said; "I'll attend to it."

He looked down at Charis, who looked up, she had heard. "Surrender, Gerd," she said. "Give up. You can't win against the master race."

"First, I'll blast us all!" he said. He gestured toward the tapestry.

"It would only blast one man," she said. "It is geared to The Instrument and it would only strike down the man who would, according to the calculations of the mathematical equivalents of us all, at the moment be most likely to hold the key to terrestrial domination."

The Instrument was uncanny!

"How do you know this?" he asked her.

She looked puzzled. "I'm afraid I don't know—it seems to have been placed in my brain at some time when I was not aware. By hypnosis, perhaps."

THANE NODDED. Her actions against him were the result of post-hypnotic suggestion. "There is nothing they haven't thought of!" he said.

"No, Gerd," said Charis. "If you agree to surrender, my work is ended. My task is finished. You will be rewarded. I was told that I would long for you, and I could have you if I persuaded you to agree to let the Beorhi land."

Thane tensed. Suddenly he was alive again. A broad smile twisted his lips. If the Beorhi had offered a bribe like this, they must not be so sure of their plot. There would be a loophole; they must know it was within Thane's power to upset everything!

The Instrument could fire the space-narks. The Instrument was electronic! He picked up the directory and thumbed its pages. Yes, there was a camera in the secret room. He pressed buttons. He saw the battered body of Febris on the floor. No time to question Acair

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about it now. He pressed the red button for sound.

"Hear this, instrument of the Beorhi! The space-narks are aimed. Fire!"

Lights flashed from the machine. Thane flipped the television view to the space-nark site. He saw twenty narks rise up into the night, hell-bent for the orbit of Uranus and a rendezvous with the Beorhi fleet. Only a command had done it—and the seal on Thane's chest!

He turned, just in time to see Acair use the judo punch he had learned from Thane. The guard, intently watching a scene he had never seen before, had forgotten his prisoner.

The soldier fell with a single punch and Acair swept up his pistol. He moved around from the doorway to get a better aim at Thane.

But Thane acted on impulse. He sprang to the wall, as Acair aimed.

THE EXPRESSION on Acair's face was one of intense determination. He resolved, no matter what his training and psychological conditioning, to overcome the block that prevented him from shooting at a man who wore the Seal of State. Vessels stood out on his forehead as he commanded his finger to squeeze the trigger.

But the instant of hesitation necessary to overcome the conditioning was enough for Thane. He swept the tapestry from its hanging and flung himself to the floor.

A bolt of flame swept across the room, and struck down Acair who stood where Thane had stood when Charis had threatened the same death. A dead finger pulled the trigger and the bullet thudded harmlessly into the wall. The Instrument had acted again, striking down the man who, at the moment, held the key to terrestrial domination. The Beorhi had figured things down to a split second—but the variable of human nature was such that the key hung in a delicate balance between two men. And the very action of The Instrument itself swung the result!

Charis rose sobbing from the floor. Thane was at her side in an instant. "It's all over," he said; "the Beorhi have lost."

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She seemed to shudder and she opened her eyes wide. The hypnotic stare was gone from her eyes and she was herself again. "But I've lost you, Gerd."

"You've only lost your conditioning," said Thane. "Your career, so to speak. In the golden age of the Twentieth and Twenty-first Centuries, many women gave up careers for marriage. Since your career—working for the Beorhi—no longer possesses a future, it might be time for you to give up yours."

She did not smile. "I remember what I did, Gerd," she said. "It was like a trance; I was compelled to do what I did not want to do."

"Hypnosis," he said.

"Yet, would you marry a woman who had tried to kill you?"

"History had several such instances," said Thane, "and not at intervals of 600 years. Even if it hadn't been done before, we should put a premium on originality. Earth as become peopled with rubber-stamp men, and much original thinking must be done if our race is to get back to where it was 600 years ago."

SHE MOVED gracefully into his arms. There was fire in her kiss. At least the Beorhi had not conditioned that.

Thane released her, took the Golden Seal of State from his neck and cast it into a chair so he could hold her closer. As he kissed her, the guard regained consciousness from the blow that Acair struck. He glanced at the Gold Seal in the chair. Snapped to attention and saluted the chair.

Thane picked up the seal and held it. "Carry Acair's body to the sepulchre," he said. "Then go find the Chief Justice of the Supreme Court. Get him out of bed, if necessary. Bring him here to perform the marriage ceremony for Charis and me."

"Yes, sir." The guard saluted again, picked up Acair's body and departed through the gold-studded door.

Thane took the seal. "First of all, we have to short-circuit The Instrument forever. Then a proclamation of the First Law of Earth, under which we'll call constitutional conventions."

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"What is this First Law?" she asked.

"That all authority derives from the Creator, and that no man is above the law. They're conditioned to obey me—or anyone else who wears this seal. I can't undo that conditioning, overnight, but I can limit it—and whittle away my power until neither I, nor anyone else, can have more than is granted me by common consent. And subject to withdrawal if I abuse it."

She nestled in his arms as they sank onto a floor cushion. "I know you'll be elected President," she said.

Somewhere in space the Beorhi fleet had its rendezvous with the space-narks and there was a great flash of flame and light. Not all the ships were hit, but the remnants turned and fled back through hyperspace in the direction from whence they had come.

The odds were against the Beorhi, who never tackled anything unless the mathematics were propitious. And the variable constant of lowly earthmen had prevailed over the highest mathematics of the universe.

★ The Reckoning ★

As I expected, there was wide disagreement on the Knight article, ranging from the reader who put "AAAAA" on his coupon to the one who followed his "X" rating with, "Keep Knight out of the magazine — he hurts science fiction, rather than helps it." About 80% of those who responded, voted on the articles, though some objected to their inclusion on the coupon even as they voted. Be of good cheer: the article ratings will go here. Asimov came out 3.23, which would have given him a clear 2d place; Knight came out 3.66, which would have put him clearly in third place. But here is the way you scored the stories in our June issue:

1. Cargo Death	2.83
2. Back of A Hand (tied with) Intelligence Quotient	3.70
3. Time of the Tinkers	4.17
4. Just Call Me Irish	5.06
5. PCM1	5.37

How do we decide which story to list first in the event of a tie? Simple — the one which has the plurality of "A" or "1" ratings.

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Editorial

YESTERDAY'S WORLD OF TOMORROW: 1928 IV

I'VE BEEN reminded that there was a letter department, too, back in 1928, and the person who mentioned this asked why I didn't say something about the sort of letters science-fictionists were writing to *Amazing Stories* in those days. Truly, I meant to cover this aspect of yesterday's world, too; but the length to which consideration of the stories brought this column—or lack of time—has frustrated me up to now. So, this time, we'll start with it.

In "Discussions" for July 1928, a reader says, in reference to H. P. Lovecraft's "Colour Out Of Space" (which appeared in the September 1927 issue), "I did not see the colour, but there *is* a spot somewhere in New England like that described as the blasted heath, for I saw such a place when I was a boy about ten years old, when traveling with my parents. I do not remember just what state we were in or what town we stopped at, but I was in the habit of straying off in the woods every place we went, and I remember coming to a place such as that which is described in the story. At the

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time the stone walls and chimney of the house and wall of barn and well were standing, but no woodwork was to be seen. I could not get to the house or barn, because I was afraid of the *gray dust,* at the time I thought it was quicksand, as I could not reach anything solid when I poked into it with the branch of a tree.

"The space covered as near as I can guess was about 3 or 4 acres."

This is not surprising, since Lovecraft was an indefatiguable traveler around New England, and many of the descriptions in his stories come from places and vistas he observed; so it is not impossible that HPL visited to the same locale that our correspondent mentions, and that the "Colour Out Of Space" was partly derived from this setting. However, the writer of this letter gives no hint that he imagines the Lovecraft story to be other than pure fiction.

DR. MILES J. BREUER, who had appeared several times in the magazine by now, has this to say about readers' comments on the stories: "Their opinion, often crudely and inarticulately expressed, coincides with mine.

" 'Too dry', 'too much mathematics,' 'too much stuff that doesn't mean anything,' 'too much theory,' and so on, all mean that the *stories have a tendency to lack a modern literary quality.*

"I don't care how much science you put in, if the stories conform to modern literary standards, the above criticisms will not occur. Let your stories have plot and unity of impression, and the general reader will like them, in spite of the science."

And editor Sloane replies, "A writer, such as Charles Lamb or Nathaniel Hawthorne, could describe the most ordinary scene and make it literature. But neither could have dipped into science for their subjects, because it would be unfamiliar ground for them. Our stories, on the other hand, are written to popularise science."

There is continued discussion on the relative merits of

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Jules Verne and H. G. Wells, both of whom were still appearing in *Amazing Stories:* a reader urges the introduction of the love element, to make the readers feel that the stories are more "true to life"; there are objections to slang and bad English in Cummings' "Around the Universe"; discussion of time-traveling, wherein the reader decides that "not a single time traveler or machine has been seen which leads us to the conclusion that either man will never invent such a machine or, in traveling back through time, will be invisible to those whom he observes."

The question of covers—are they too gaudy? Do they give a wrong impression of the magazine?—arises again, as does the question of the magazine's title. Shouldn't it be changed to *Scientifiction?* Doesn't *Amazing Stories* sound too vulgar?

And there's discussion about a possible "science club", run by the magazine, but separate from it—a separate publication being the organ of the club. This would be a forum for discussions and articles helpful to college students, etc. There was nothing recognizable as a science fiction "fan club" here, you'll note.

IN THE fiction department, Charles Cloukey's "Super Radio" was a matter transmitter, operated by jewel thieves, under the leadership of a beautiful woman scientist. Paul's cover shows her fetchingly arrayed in knickers and two-toned sweater; she's at the controls of a gadget whence comes the artificial fire-ball from which our hero (in his aviator's outfit) is shrinking back. (Oh, yes—the beautiful gal-scientist is saved for our aviator, in the end; sphygmomanometer tests showed that she was not guilty of murder, and she was cured by psychotherapy.)

I've never heard whether anyone uncovered the identity of "Marius", author of "Vandals From the Moon"—an interesting re-write of H. G. Wells' "War of the Worlds" so far as the general plot-outline is concerned. The alien's ship looks like a blunt-nosed torpedo with wings; after landing, the wings are retracted.

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Tapping proved it to be hollow and it was found to be constructed of a steel-like metal, corrugated, and reenforced with thick ribs of the same metal, at twenty feet junctures on its exterior. Three circular openings like three enormous trap doors, each of them fully fifteen feet in diameter, took up almost the entire surface of the nose and gave it the horrid, dragon-like appearance that it embodied. In height, it measured fifty-two feet.

...Within three hours of its landing on earth, ten long, slender, worm-like tubes, each of them in the neighborhood of one hundred feet in length and ten or twelve feet high, had emerged from the three circular trap-doors at the head-end of the lunar torpedo. They seemed of the same metal as the torpedo itself, and had no discernible openings, and differed very little from it in shape; instead of being rigid as was the parent-ship, these metal worms were flexible, almost snake-like in their structure. They seemed to be made of a long series of narrow hoop-like segments and tapered down to a tail. They traveled with curving snakish motions with great rapidity and employed a terrific crushing power in the manner of the boa constrictor, or the giant python. Armed citizens and police of the vicinity found them to be bullet-proof...

The worm-like things create havoc by such pranks as wrapping themselves twice or three times around a number of steel girders on a railroad bridge and twisting the structure down. Bombs dropped from airplanes harm them not. Dr. Macklin will investigate the "decay rays" they use, with vividly-described effect.

It turns out that, inside the metal worms, are little men who emerge in chairs on stilts; the little men run to the size of a ten-year-old child, have big heads, scrawny bodies, no hair. They kidnap girls; when our hero is captured, he finds that the Lunite camp has a corral full of girls—however, the invaders do not seem to

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have very interesting designs for them. And our hero, who's always been interested in mechanics, etc., manages to watch and figure out how the stilt machines are used—and, of course, he and the heroine escape in one.

LIKE H. G. WELLS' Martians, the vandals from the Moon are destroyed by bacteria—but it's bacteriological warfare on the part of beleaguered humans, not natural happenstance which does the job.

This was the first story in *Amazing Stories* where the hero hijacks the aliens' machines, as described; the incident is plausible. The Lunar "walkers" are essentially simple; the hero has had a chance to observe them, and we know that has an aptitude for things mechanical. He does not try to attack the enemy with one of their own machines; he merely uses it to make an escape.

Unfortunately, such virtue did not start a trend; the Edmond Hamilton trick of the hero getting hold of the enemy's ship (usually a formidable, intricate mechanism) and in no time at all being able to outmaneuver the enemy with it—as well as wipe out a good part of the hostiles, operating their own ships, but helpless against him—was the plot-device to be repeated again and again.

Bob Olsen's "Educated Pill" introduces the scientifically-gimmicked baseball. "As he spoke, he had the ball in his hand, twisting on it until it came apart in two halves. One of the pieces was just a hollow shell of steel with small holes in it; the other part was the funniest-looking contraption you ever see in your life. It was built like a dinkey toy aeroplane, with a propellor and dinguses for making it go up and down and to the right or left. The whole rig was so small that it fitted inside a hollow sphere just the size of a big-league baseball."

It's run, we find out by a "spring motor, which he wound up by twisting it just before he delivered the ball. The steering gear and motor were controlled by small buttons, which he pressed through the cover."

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Needless to say, the results are amusing if unconvincing.

IN THE August issue, one Frederick Bitting started something off when his letter in "Discussions" contained various paragraphs addressed to specific readers, to whose letters in previous issues he wished to reply. It would be some time before we'd see what this led to, and the most spectacular results would not appear in later letter departments of the science fiction magazines, but in fan magazines.

Dr. Breuer goes into space medicine, speaking about "the depressing effects of long periods of monotony and of physical inactivity...minor symptoms caused by the withdrawal of gravitation...vertigo and nausea"...etc. The editor notes that Hugo Gernsback had taken note of space-sickness in *"Ralph 124c41 Plus"*.

Other subjects covered at great length—letters were often quite long, and included formulae and diagrams at times—were traveling faster than light; conditions on Mars; the problems of Wells' invisible man (allowing that one *could* become invisible the way Griffin does) which the author overlooked, and continued discussion of covers and the title, *Amazing Stories*.

PAUL'S COVER shows Richard Ballinger Seaton, in helmet and red flying suit (with knickers tucked into zipper-top boots), testing a device which will play a part in "The Skylark of Space". Waving her handkerchief to him from the ground is Dorothy Vaneman, fetchingly arrayed in purple knickers and a two-toned v-necked, sleeveless blouse. The "v" nearly reaches her waist; but since she shows little evidence of mamillian development above the waist, it makes no difference.

While E. E. Smith is rightly credited as having *written* the first galactic science fiction novel (he and Mrs. Garby wrote the tale before 1920), Edmond Hamilton deserves equal honors for innovation, since his two-part serial "Crashing Suns" appeared in the August and September 1928 issues of *Weird Tales*.

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And Ed beat Doc to the interstellar federation of beings; all manner of creatures character the Hamilton tales—the story mentioned was the first of a series—and all live in harmony, without the slightest thought of creature-prejudice, joining forces against the common menace. (This is usually some single race of super-scientific beings which—for perfectly good reason by their lights, not just plain nastiness—are out to steal or smash various suns we need.)

There are bazookas, disintegrator rays, and flying belts in "Armageddon—2419", by Philip Francis Nowlan; and I'm sure you know that the hero, Anthony Rogers, became "Buck Rogers" in the comic strips and on the radio.

"The Perambulating Home" is the last of "Hicks' Inventions With A Kick" to appear in *Amazing Stories;* and though the slapstick was beginning to wear thin—nearly every story has a device based upon hydraulics; and in the big demonstration, Hicks somehow jams or breaks the lever of the machine, which thereupon goes wild. You know, of course, that the tons of water are going to burst loose soon—and the flood tops everything off. However, by itself, "The Perambulating Home" is good for a laugh. The house can be rotated so that you can be in the sun, or the shade, all day if you like. And when things go wrong, it starts to roll over like a tumbling toy and perambulates off a cliff into the bay. When the narrator comes to, the Japanese servant tells him, "And so, Honorable Perambulator Home are now transmigrated into ocean-going motor-ship of alcoholic joy, destitution generally unknown."

THERE HAS never, in the 20th Century, been any valid grounds for supposing that the atom ". . . with its central nucleus and its satellites, called electrons, is really only a miniature universe, in fact and not by analogy only. . .", as Professor Halley states in R. F. Starzl's "Out Of The Sub-Universe". This is the cover story for the Summer 1928 edition of *Amazing Stories Quarterly.* The author

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does, however, honor one logical necessity that Cummings did not bother with in his "Girl in the Golden Atom", and other "smallness" tales. *If* atoms were really sub-universes, and *if* people could go there, survive, and return, *then* the "surprise" (it was a surprise at the time) ending of the Starzl story is not only logical but necessary. The hero and heroine are supposed to go into the sub-universe for half an hour; thirty minutes later, the Professor throws the switch on the dingus to bring them back. But to his horror, he finds a swarm of people returning; of course—the time-rate is so vastly different, that his daughter and her boy-friend have lived out their lives and died. It is their descendants—quite a multitude—who return to the relative macrocosm of our own universe.

The lead novel is Stanton A. Coblentz' "The Sunken World", an Atlantis story, which is analyzed by L. Sprague de Camp in his article, "The Lost Continents of Fiction". (*Science Fiction Quarterly*, August 1954). As Sprague says, "While not unreadable, the story somehow lacks vitality. The writing is mediocre and the author seems to know little of Navy life. Moreover it suffers from the fault of many Utopian novels, in so exaggerating the faults of modern Western civilization, and so laboring the contrast with an ideal society from which all these evils have been banished by the author's fiat, that the contest between them is a mere setup and about as interesting as most setups." It isn't, note, the exaggeration of present-day folly (a legitimate device, which is the basis of social satire) which is bad here, but rather the flat and unconvincing perfection of the utopia.

RACIAL "superiority" and the "white man's burden" was a very common theme in the fiction of the Twenties, and it should be remembered that the two themes, while similar in many ways, spring from diametrically opposed foundations. The story of racial "superiority" is rooted in the proposition (whether stated or not) that one was created su-

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perior to all others, and shall forever be so. The "white man's burden" story contends that the "white man" has achieved a *position* of supremacy, but this position carries with it the responsibility of helping other peoples. The buried assumption here is that "white supremacy" is something that God has permitted but not expressly ordained—and may be lost in time if abused.

The two themes appear in many permutations and disguises, but can be distinguished nonetheless by the underlying attitudes in a given story. Are members of the "non-white" peoples assumed to be "inferior" *per se?* If so, then we have the "racial superiority" tale, which may take any number of tacks from "be kind to animals" to apologies for genocide.

In any of such tales, racial conflict may be the plot; and even in the most extreme "superiority" story, it may be admitted that the "inferior peoples" are not entirely unjustified in hating the "whites".

These themes have not appeared very often in science fiction (so far as the races of mankind, here on Earth are concerned), and "The Menace", a series of four stories featuring the detective, Taine of San Francisco, by David H. Keller MD, was the first to be rooted in this theme.

Despite the plot of conspiracy and the attempt of another race to gain ascendancy over the "whites", "The Menace" is a "white man's burden" rather than a "racial superiority" story. (To repeat, it's the difference between saying that "the green men occupy an inferior position in our society" and "the green man is, *by nature,* an inferior species of human being".) I do not think, however, that any science fiction editor would accept a modern version of "The Menace".

IT RAISES intellectual and moral questions which have been widely debated both in and out of science fiction. In science fiction, the intellectual question is: If we are going to try to visualize what the future may bring, can we ignore the fact that racial prejudices and hatreds exist, and have a great

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deal to do with the shaping of events in the real world? The moral question is the same for all fiction: Can the subject be treated honestly and realistically without feeding prejudice and fanning hatred? And you might add to that an artistic question: Can the subject be treated morally without producing a sermon, rather than a story?

For the most part, these issues are evaded (you just don't see stories on the theme), or the unpleasant and controversial aspects ignored. It is equally true that, at all times in human history, there have been men and women who treated people of other races like human beings rather than members of a sub-human species. (This could mean, too, that John Doe treated the green men no better than his fellow whites. He cheated all with equal aplomb, never adding slurs upon the color of the green men's epidermis to the injury.)

I think that, however free of prejudice a story may be, a tale with the plot of green men revolting against the whites, planning to wipe out the whites, or supplant them, or whatever, will have the *effect* of fostering hatred and prejudice. In the same way, crime stories which stress violence, clever evasion of the law, and high living, have the effect of glorifying crime even though the gangsters are wiped out or sentenced at the end. (Pornography does not become "moral" if, after innumerable lubricious chapters, the lead character is shown dying miserably of a disease.)

"Ten Days To Live", by C. J. Eustace, has a machine which can move the Earth closer to the sun. The fallacy was covered by Dr. Macklin, and we touched upon it ourselves in reference to "Ten Million Miles Sunward". Even though the power comes from the disintegration of silver, the story doesn't convince. RAWL

Answers To The Quiz

1-d, 2-t, 3-l, 4-v, 5-x, 6-i, 7-p, 8-w, 9-u, 10-m, 11-q, 12-e, 13-j, 14-a, 15-f, 16-y, 17-n, 18-b, 19-h, 20-k, 21-r, 22-c, 23-s, 24-o, 25-g.

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A. Vignette of Possibility

The Last Paradox

by Edward D. Hoch

"IT'S TOO bad that G. K. Chesterton never wrote a time-travel story," Professor Fordley lamented as he made the final careful adjustments on his great glass-domed machine. "He, for one, would certainly have realized the solution to the paradox inherent in all travel to the past or future."

John Comptoss, who in a few moments would become the first such traveler outside the pages of fiction, braced the straps of his specially-designed pressure suit. "You mean there is a solution? You don't think I'm going to end up in the year 2000 and be able to return with all sorts of fascinating data?"

Fordley shook his head sadly. "Of course not, my boy. I didn't tell you before, because I didn't want to alarm you; but when you step out of my time machine you will not be in the year 2000."

"But...but that's what it's set for, isn't it?"

Fordley gestured at the dials. "Certainly it's set for thirty-five years in the future, but there is one slight fact that all the writers about time travel have overlooked till now."

John Comptoss looked unhappy. "What's that, Professor? You think I'll come out in the middle of the Cobalt War or something?"

"It's not that. It's rather...

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well, why have these writers always assumed that travel to the past or future was possible, anyway? We know now that we can—in this machine—increase or decrease the age of an animal, in much the same manner that the age of a traveler through space would change as he approached the speed of light."

"Of course, Professor. We've done it with rocks and plants, and even mice..."

FORDLEY smiled. "In other words, everything that goes into the machine is affected. But what no one ever realized before that *only* the material in the time machine can grow older or younger. When you step out, *you* will be older, but the world will be unchanged."

"You mean the only way we could advance to the year 2000 would be to build a time machine large enough for the entire earth?" John Comptoss asked incredulously.

"Exactly," Fordley replied. "And of course that is impossible. Therefore, time travel as portrayed in fiction will never come to pass."

"So you're going to stick me inside this crazy machine and make me older? Just that and nothing more?"

"Isn't that enough, John? You're twenty-eight years old now—and in a moment you'll be thirty-five years older. You'll be sixty-three..."

"Can you bring me back all right? Back to twenty-eight?"

Fordley chuckled. "Of course, my boy. But you must remember everything that happens to you. Everything. There's always a possibility my movie cameras will miss something."

The young man sighed. "Let's get it over with. The whole thing's sort of a letdown now that I'm not going to end up in 2000."

"Step inside," Fordley said quietly, "and...good luck."

"Thanks." The heavy door clanged shut behind him, and immediately the condensing water vapor began misting over the glass dome.

PROFESSOR Fordley stepped to his control dial and checked the setting. Yes, thirty-five years into the future... Not the future of the

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world, but only the future of John Comptoss...

The big machine vibrated a bit, as if sighing at the overload of a human occupant. It took nearly ten minutes before the indicator came level with the thirty-five year mark, and then Fordley flipped the reverse switch.

While he waited for the time traveler to return, he checked the cameras and the dials and the hundreds of auxiliary instruments that had been so necessary to it all. Yes, they were all functioning. He had done it; he had done it with a human being....

The green light above the board flashed on, and he stepped to the heavy steel door. This was the moment, the moment of supreme triumph.

The door opened, slowly, and the blurred figure of John Comptoss stepped out through the smoke.

"John! John, my boy! You're all right!"

"No, Professor," the voice from the steam answered him, sounding somehow strange. "You picked the wrong man for your test. The wrong man..."

"What's happened to you, John? Let me see your face!"

"Professor, I died at the age of sixty... And there's one place from which even your machine couldn't return me. One place where there is no time..."

And then the smoked cleared a bit, and Professor Fordley looked into his face...

And screamed...

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There just weren't any grown-ups left at all ...

BOY

by Richard Wilson

Don't scoff at grammar-conscious school - teachers. One of them may yet save the Presidency of the United States...

JERRY, WHO was the oldest, had always had a sense of responsibility. So after the bombers droned away, he naturally assumed leadership.

The kids had been down deep, the grown-ups not so deep. Jerry was scared; but when the little kids started to complain that they were hungry, he made himself go up. That was after more than a week—when they'd eaten everything in the emergency kits, and water was running low.

They'd sure made a mess, those bombers, but they hadn't got the cache. That was even deeper in the ground than the children's shelter, but not big

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enough to hold people. Jerry started down, seeing to it that each time his foot went as far as possible into the step hewn out of the rock. It was like going down the inside of a tall chimney, and twice as scary.

The cache was okay and he climbed up again with the nylon rope. Then, while the other kids were hauling up the food kits, he put the radio together.

He put on the earphones and listened. There was nothing, not even on short wave. He sent out calls, but nobody answered; and after a week, he gave up.

By that time, things had been pretty well established. He was surprised how well the kids were taking it. He organized them and made them work like slaves; they hated him at first, until they came to understand that they had to do what he said, or there wouldn't be anybody left—not even kids.

THERE WAS shelter now and plenty of food, and the well water was pure; and finally Jerry had time to sit down with a calendar and his box of pebbles—a pebble a day, just before going to bed—and figure out how long it had been since the attack. He was surprised. It had been nearly four months.

At first he had thought a grown-up would be sure to come along and take charge. He looked forward to handing over responsibility and hearing someone tell him he'd done a good job. But as the days went by, and the number of pebbles in the box increased, he began to realize that it might always be up to him.

When no grown-ups came, he went looking for them, whenever he could find the time. But apparently there was nobody else, not even other kids; he'd have to keep on being boss.

After the kids fell into a routine of living, Jerry had time for daydreaming. He'd sit in the shade of the big hut where they all slept, and think about the things he could be. Like heavyweight champion of the world, when he put a few more pounds on his hard, muscled body. Or grand champion farmer, now that things were beginning to grow again. Or

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engineer on the 20th Century Limited, if there was a locomotive and any track left.

It was while he was thinking about these big glamorous jobs that he realized what he had to be, and no kidding. He had to be President of the United States.

SOMEBODY had to be President, even if there wasn't anything left of the United States except thirteen kids whose orphan home had happened to have the best bomb shelter in the whole world.

It would have to be him, Jerry knew. The only other kid who had sense enough was Marie. But she was only twelve, and a girl at that; he was fourteen, and the others were ten or younger.

There had been a few books in the cache, along with the food and tools and radio, like a Bible and a dictionary and a Shakespeare and an almanac. He went to look up Constitution in the almanac.

It was worse than he'd thought. It wasn't twenty-one you had to be to be President, but thirty-five, it said.

Or did it? He read Article II, Section 1, Paragraph 4 again:

> *"No person except a natural born Citizen, or a Citizen of the United States, at the time of the Adoption of the Constitution, shall be eligible to the Office of President; neither shall any Person be eligible to that Office who shall not have attained to the Age of thirty-five Years, and been fourteen Years a Resident within the United States."*

Jerry read it again, word by word, and began to see the answer. There were three negatives in Paragraph 4: a *no*, a *neither* and a *not*.

The late Miss McGrath had drummed it into him that two negatives make a positive. Therefore *no* and *neither* canceled out. That left one negative. The passage then read:

> *"...shall any Person be eligible to that Office who shall not have at-*

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tained to the Age of thirty-five Years, and been fourteen Years a Resident within the United States."

WELL, SIR! Jerry had certainly not attained to the Age of thirty-five Years, and he was as eligible as pie! And, at fourteen, he'd been a Resident just long enough.

He should have been a Constitutional lawyer, that's what. He shut the almanac, put it back on the shelf over his bunk and went out to organize the election.

It was a solemn moment, a week later, as the inaugural parade came to a halt in front of the newly-built hut and Jerry put his left hand on the big Bible on the table.

Some of the kids had wanted to make him King, and Marie Queen, but Jerry had insisted on a Constitutional election, and now he stood before the door over which somebody had chalked *White House*. Marie stood next to him. She'd been elected Vice President.

Jerry raised his right hand. "I do solemnly swear that I will faithfully execute the office of President of the United States..."

He felt proud and grown up as he completed the oath. Everybody clapped and one or two whistled. The President frowned at the whistlers.

Marie, who'd consulted Jerry's calendar during the past week, and announced that she'd turned thirteen a month ago without knowing it, took the oath of Vice President.

She turned to him and said: "Congratulations, Mr. President," and put up her mouth to be kissed. He kissed her awkwardly and there were cheers and whistles. The President didn't frown this time, because he was blushing.

Later, in the privacy of the White House, he was still frowning. In his new maturity he recognized that the thirteen citizens of the United States, like the thirteen colonies long ago, would have to multiply.

And he had a feeling that his country's welfare would require before he ran for a second term that he ask the Vice President to resign and become his First Lady.

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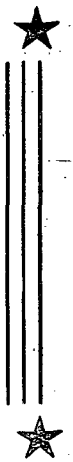

SCIENCE FICTION ALMANAC

The dates listed are those that appeared on the magazines, rather than the dates when they appeared on the newsstands.

SEPTEMBER

1931: (marginal) *Strange Tales,* Vol. 1, No. 1; pulp size; bi-monthly; Harry Bates, editor.

1932: *Astounding Stories* becomes bi-monthly. (Clayton)

1939: *Famous Fantastic Mysteries,* Vol. 1, No. 1; pulp size; bi-monthly; Mary Gnaedinger, editor.

1941: Final issue of *Science Fiction,* Vol. 2, No. 6. (Title combined with *Future Fiction* the following month.)

1953: Final issue of *Space Science Fiction,* Vol. 2, No. 3.
Final issue of *Rocket Stories,* Vol. 1, No. 3.

1954: (marginal) Final issue of *Weird Tales,* Vol. 46, No. 4.

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OCTOBER

1930: (marginal) Final issue of *Amazing Detective Tales,* Vol. 1, No. 10.
1933: *Astounding Stories,* revived as monthly by Street & Smith; pulp size; Orlin Tremaine, editor.
Amazing Stories now pulp size.
1935: *Amazing Stories* now bi-monthly.
1938: *Amazing Stories* monthly again.
1943: (marginal) Final issue of *Unknown,* Vol. 7, No. 3.
1949: (marginal) *Magazine of Fantasy,* Vol. 1, No. 1; digest size; quarterly; Anthony Boucher & J. F. McComas, editors.
1950: *Galaxy Science Fiction,* Vol. 1, No. 1; bi-monthly; digest size; Horace Gold, editor.
(marginal) *Imagination,* Vol. 1, No. 1; bi-monthly; digest size; W. L. Hamling, editor.
1952: *Space Stories,* Vol. 1, No. 1; pulp size; bi-monthly; Samuel Mines, editor.
1953: Final issue of *Tops in Science Fiction,* No. 2.
Final issue of *Two Complete Science-Adventure Books,* No. 10.
1954: Final issue of *Thrilling Wonder Stories,* Vol. 44, No. 2.
1955: Final issue of *Startling Stories,* Vol. 33, No. 3.
1956: *Satellite Science Fiction,* Vol. 1, No. 1; bi-monthly; digest size; Sam Merwin, editor.

Erratum

Under the heading of "June":
1953: *Future Science Fiction* now digest size.
The correct listing is:
1954: *Future Science Fiction* now digest size.

Note

After 1939, changes in frequency of publication become so frequent, due to war conditions, that it is not feasible to attempt to list them all. However, additions and corrections from readers will be welcomed.

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DOWN TO EARTH

THIS DEPARTMENT is for you, our readers, and is a vehicle for airing your opinions. We shall publish as many letters in each issue as space allows, and it makes no difference whether they are complimentary, or whether the editor is lambasted for what you think was an error of judgement in selecting stories. If you want to argue with an author, or with other letter-writers, here is an open forum for you.

While the editor may comment upon a given opinion, and may express one or two of his own at times, this is your department, and you have the last word. And whether your letter is published or not, rest assured that your opinions are read carefully and taken into consideration. All suggestions for improvement are welcome, and we will follow them wherever feasible.

WHY DO WE READ SCIENCE FICTION?

Dear Bob:

Okay, here it is, typewritten, doublespaced, and on *one* side of the paper, as requested.

The quest for a definition of science-fiction is not only fascinating, it's frustrating! No matter what the definition, there will be science-fiction stories that don't fit it. And there will probably be non-science-fiction stories that do. You just can't win. Science-fiction can be described, but not defined.

If I remember correctly,

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there was a similar argument kicking (or being kicked) around a few years back. We were all quite concerned then with *why* we read science-fiction.

Nobody knew.

Oh, there were theories, and the plaintive cry, "Because I *like* it." But as far as I can remember, no one ever said, "I like it because..." and then continued with a satisfactory reason or explanation. After a while, no one even tried.

Maybe someone should try.

I think I know why I read science-fiction. Or, at least, why I read it in preference to most other types of fiction.

Take almost any story in almost any general magazine. What's in it? Ordinary people doing ordinary things in ordinary ways, with just enough difference to make the average reader think he's being entertained. That's just fine for the average person who's been force-fed a diet of conformism from infancy on.

But I'm a nonconformist. I like to think for myself and do things for myself and discover things for myself. I hate to do something everyone else is doing just because everyone else is doing it. And I hate to read about people who do the conventional, expected things just because they're conventional and expected. (My dictionary defines "conventional" as *"Lacking spontaneity, originality, or individuality,"* and gives as synonyms *"accepted, customary, traditional, trite, stereotyped."*)

Now, some pretty harsh things have been said about science-fiction, but I've never heard it called conventional. That's why I like it. It doesn't deal with ordinary people doing ordinary things.

By now, someone is probably nodding wisely and muttering, "Escapism." Nuts. If that's escapism, then so is watching a sunset, listening to music, eating a new food, or doing anything pleasant.

Enough said?

Perhaps the rest of *Future's* readers can comment on this and decide why they read science-fiction. A little discussion of the subject might even lead us to that elusive definition. At the very least, we may come up

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with a better description!

May I take a moment now to sympathize with Isaac Asimov? (I did spell that right, didn't I?) I know just how he feels. My name lends itself to misspelling, and I really think I suffer more than he does. The alteration of one little letter in my name changes it from feminine to masculine. As you can understand, this leads to embarrassment as well as annoyance. People keep asking me how I liked Denmark!

MARIAN C. OAKS,
8219 Belair Road,
Lot 89, Road E,
Baltimore 6, Maryland

Hmm, that reminds me of the conductor's remark when he accidently punched the gentleman's commutation ticket in the "female" square, "Look at the money I saved you."

NATURAL-LY

Dear Mr. Lowndes:

I have been following the discussion in your magazine of a definition for science fiction and fantasy fiction with some interest.

Formulating definitions is a pretty tricky business; in one way, it is about all there is to language and logic. In a case like this, however, there is pretty general agreement as to the extensional existence of the class, and probably reasonably general non-verbal understanding of what it comprises—in other words, people can point to a specific story and say: "*This* is science fiction;" or "*This* is not science fiction". I think we can get along pretty well with the classical method, "per genus et differentiam". What this means is that we first place the collection we wish to define in a definite

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class and then pick out the differences which separate it from other members of the class.

In this case, the class is obviously fiction; but we want to specify what *kind* of fiction. So:

1. Fantasy fiction depends for its major development on the assumed existence of phenomena not subject to natural laws.

2. Science fiction depends for its major development on the assumed existence of phenomena subject to natural laws; but which is assumed can not have actually occurred.

The final qualifier is explicit in the definition of science fiction, but not in fantasy fiction; because in our culture supernatural phenomena automatically put a story in the fantasy class, regardless of whether the author or any of his readers believe in them or not. On the other hand, in science fiction the author's attitude is important. Wells' *"Land Ironclads"* is science fiction, because at the time he wrote the story, tanks did not exist, to his knowledge. Wylie's *"Opus 21"* is not science fiction—although it is concerned with nuclear and psychological science which seems rather peculiar to some of us—because Wylie firmly believed his ideas were valid and factual at the time he wrote. His *"Disappearance"* is either fantasy or science fiction—the doubt being due to some obscurity as to whether he intends his phenomena to be subject to natural laws or supernatural—because he doesn't believe such a disappearance actually occurred.

Now, as to the difference between natural and supernatural phenomena:

Science, basically, is the art of prediction, of finding functional relationships between events. Its prime tenet is that such relationships do exist and can be found, that all events are subject to natural law.

Magic and fantasy, in our current understanding—in olden days, magic was an empirical search for natural law—are arbitrary and based on the belief that certain events are intrinsically beyond our ability to order or understand. They are *super*-natural, outside natural law entirely.

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There has been quite a spate of stories lately in which traditionally fantastic characters —witches, werewolves, ghouls, vampires, etc.—are used, but assumed to be subject to natural law—their witchery is explained "scientifically". These stories are science fiction, to my mind, and apparently are accepted as such without question by most readers.

In the old *"Unknown"*, however, and in *F&SF* nowadays, there is a pretty prevalent type of story in which all characters are extremely matter-of-fact and everyday; but where the plot hinges on occurrences that are assumed to be not subject to natural law—they violate all our current scientific knowledge, and no effort is made to explain them "scientifically." These stories are fantasy, and nobody questions it.

So, to my mind, that is the difference between science fiction and fantasy fiction. If the author has made an attempt to indicate that his story is based on phenomena which can be explained as subject to natural law—regardless of whether he

[turn page]

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has attempted an explicit explanation—and regardless of how fantastic his explanation may sound—it is science fiction. Whether it is *good* science fiction, of course, is a horse of an entirely different color.

RALPH W. SLONE,
Box 93-A,
Homer, Alaska

WASTED EFFORT

Dear Bob:

Hate to mutilate a magazine by clipping coupons, so I'll do my voting by letter. Let's tie the two articles for first place; give the Mathieu story second place; then tie the Wilson and Gordon stories for third. The rest, I'm afraid, were "pretty much of a muchness," as my grandmother says. Not really poor enough to get an X, but not quite good enough to rate a vote.

Damon Knight's article was of particular interest to me. He says, "...the science fiction spine of a story generally takes the form of an argument. If such and such happened, then this would come about; and then this; and you wind up over here." In the next paragraph, he says, "That's essential. If you do not have it, or if it's poorly done, then the story may be good in other respects, but it isn't good science fiction."

What about the other side of this statement? How often does a writer take an *idea* (or gimmick, if you prefer) and swathe it in a few thousand not very well-chosen words, with no thought of plot, characters, or action of any kind. The result may, by quite a stretch of the imagination, be called science fiction. It certainly isn't a story. I suspect that this is what Mr. Knight means when he mentions "little-magazine stories masquerading as science fiction."

The author, in effect, tells us that conditions are thus-and-so. He doesn't bother to tell us what happens—or even how it happens—under those conditions. As a result, he accomplishes nothing, except to set forth an idea or theory that might have been turned into a good story. And certainly good ideas are not so plentiful that we can afford to waste them.

[*Turn To Page* 126]

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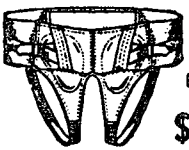

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Reminds me of my kid sister's carrot patch. Every day, she pulled one to see how big they were getting. By the time they'd have been big enough to eat, she didn't have any left...

Later in the article, Mr. Knight says, "The ideal is a story in which the science is treated with the same loving skill as the human relations. It takes a certain wideness of vision to bring them both together, and that's probably what makes it so rare: most of us find we have to concentrate on one thing or the other."

Possibly he's right, but judging from a good many stories I've read recently, too many of us don't bother to concentrate on either!

And that is probably why science fiction is still largely considered drivel for morons.

MARIAN C. OAKS,
8219 Belair Road,
Lot 89, Road E,
Baltimore 6, Maryland

SPECIAL CASE

Dear RAWL:

I sympathize with the late Mr. Olsen's distaste at the notion of defining science fiction as a special case within the larger area of fantasy—but this definition isn't as self-contradictory as it may seem. "Fantasy" is defined in the *American College Dictionary* as (1) "imagination, esp. when unrestrained (2) the forming of grotesque mental images (3) a mental image, esp. when grotesque. Then follow special pschological and musical definitions. *The Britannica World Language Dictionary* gives "a fantastic notion or mental image; fancy" as its first definition. Fowler's *Modern English Usage*, tells us that the predominant sense of "fantasy" is "caprice, whim, fanciful invention" (while, with "phantasy", we have "imagination, visionary notion"). All three, you will note stress "imagination" as the base and say nothing about "natural" or "supernatural" foundations.

So rather than try to say that science-fiction isn't fantasy, it seems to me that it would be more sensible to let that argument go, but pin down the special elements found in science fiction that you will not

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find in other types of fantastic fiction.

And we have to remember that science-fictionists are likely to insist upon a particular definition of "science" which the dictionaries do not restrict themselves to. A "science" is generally defined as a "systematic body of knowledge"; it is just in the last century or so that the so-called "scientific method" has come into vogue, and many "systematic bodies of knowledge" denied the label of "science", because they did not conform.

So I think we have to insist that the basis of the science in what we want to call "science fiction" must not only be rooted in natural laws (as opposed to supernatural laws), but that we should specify that the subject matter has to be at least hypothetically subject to what we understand as the "scientific method". This refers to events, phenomena, and discoveries in the stories, and the author's treatment of them—whether they are explained or not, the treatment should give the impression that they are

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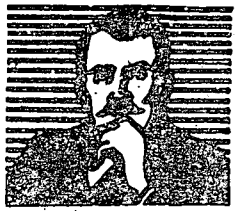

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subject to eventual explanation by some science or sciences, operating under the scientific method. (This sets the standards for what type of evidence is and is not acceptable, what constitutes valid tests, demonstrations, etc.)

What about supernatural laws and the supernatural? This would refer to (a) stories about events, phenomena, discoveries, etc., which cannot be explained, demonstrated, etc., within the framework of the scientific method—and yet which, nonetheless, appear to follow some sort of order and have some sort of inter-connection, suggesting the possibility of some sort of "manipulation to (seeming) advantage"; (b) stories where this factor is completely or nearly ignored (c) stories dealing with unresolved impossibilities, yet containing aspects of (a).

Examples of the (a) type of story would be tales about psionic machines, psi power, etc.

Most ghost stories fall into the (b) category. The ghosts are taken for granted by both author and reader, despite the incredulity of characters in the tale.

Bram Stoker's *"Dracula"* is an excellent example of (c). The actual phenomenon of the undead is not satisfactorily explained; the vampire remains a medical impossibility, as described. However, the specific powers, and limitations of powers, of these unGodly creatures are gone into very thoroughly; and the characters finally destroy the evil creatures by understanding and manipulating the vampires' limitations to the advantage of the living.

It follows then that type (a) fantasies can and do go well in science fiction magazines, even though they are marginal cases; while the type (b) and (c) fantasy doesn't belong at all. And there is always the possibility that "tomorrow" a given type (a) fantasy will turn out to have been true science fiction after all.

It should be remembered that a good many rejected "sciences" are nonetheless "systematic bodies of knowledge"; and that in magic and witchcraft, for example, one is not supposed to get the results

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sought by a mere wave of the wand, or a hypnotic gesture. The formulas are explicit, and are supposed to bring specific results without any more variation than one finds in following a certified chemical formula. (You can follow the formula, in chemistry, and still not get what you expected because the ingredients were not what you thought they were, or because of disturbing factors of which you were unaware. If a certain degree of heat is required, for example, this heat to be supplied by boiling water, you may add the boiling water exactly as specified—but be frustrated by the fact that air pressure made the water boil at a lower temperature than was required.)

Finally, I'd like to suggest that while the scientific method has carried us a long way in our quest to understand and manipulate natural laws to (seeming) advantage *it is not itself a natural law*. Eventually, we may find modifications and amendments both necessary and desirable. Furthermore, to define a phenomenon as "supernatural" is not to prove thereby that it does not, or cannot, exist, or is thereby

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both unknown and unknowable.

MURRAY KING,
Greenwich, Conn.

Perhaps a better definition for "supernatural" would be "outside of, or superseding, what is currently known to be natural law; unknowable by present-day application of the scientific method". It reminds me of the famous (and misunderstood) question of how many angels can dance on the point of a needle. With the present-day conception of the *field*, that "point of the needle" takes on an entirely different meaning. (We will bypass the existence of angels, which cannot be demonstrated by the scientific method, and whether angels dance, in any event.)

The question is "misunderstood" in that many people believe that there really was such a debate during the middle ages. There wasn't, but there was a lot of time and ingenious rhetoric wasted on equally p o i n t l e s s matters. And various sensible scholars, irritated at seeing serious attention given to pointless trivia, said that one might as well have a debate on how many angels could dance on the point of a needle. RAWL

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